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IN THE

Supreme Court of the United States

OCTOBER TERM, 1954

No. 541

DANIEL BOGGARDS VINCENT and FOOD PROCESSORS, INC.,
Petitioners,

v.

SUNI-CITRUS PRODUCTS COMPANY,
Respondent.

FOOD PROCESSORS, INC.,
Petitioner,

v.

MINUTE MAID CORPORATION,
Respondent.

DAN B. VINCENT, INC.,
Petitioner,

v.

MINUTE MAID CORPORATION,
Respondent.

PETITIONS FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

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PETITIONS FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

Undersigned counsel on behalf of Daniel B. Vincent, Food Processes, Inc. and Dan B. Vincent, Inc., prays that a Writ of Certiorari issue to review the judgment of the United States Court of Appeals, Fifth Circuit, entered in the above entitled consolidated cases on August 5, 1954; Rehearing denied November 4, 1954.

OPINION BELOW.

The opinion of the United States Court of Appeals, Fifth Circuit, is reported at 215 F. (2d) p. 305.

JURISDICTION.

The judgment of the United States Court of Appeals, 5th Circuit, was entered August 5, 1954. (See Appendix A hereto.) Within the time fixed by said Court a Petition for Rehearing was timely filed. (Printed Petition at end R. Vol. X). Upon consideration said Petition for Rehearing was denied, without opinion, November 4, 1954. This Petition is filed well within 90 days following November 4, 1954. The jurisdiction of this Court is invoked under 28 U. S. C., 2101(c).

QUESTIONS PRESENTED.

1. Have petitioners been denied due process of law and a fair trial in the trial Court and was it error for the Court of Appeals not to have considered and passed upon the gross irregularities in conduct and procedure leading up to the adoption by the trial judge of findings of fact prepared by respondents' counsel without notice thereof to petitioners?
2. Did the Court of Appeals in affirming the decrees of the trial court apply the proper criteria of invention in determining the validity of the patents in suit?
3. Was it error for the Court of Appeals to sustain as binding on it such trial court's findings that the patents in suit were anticipated by the prior art?
4. Was it further error for the Court of Appeals, relying on such findings, to have found contrary to the disclosures of the patents and the evidence that the patents in suit "do no more than record and claim a mere natural reaction and result"?

5. In following the erroneous and improperly adopted finding of the trial court, did the Court of Appeals err in holding that the patents in suit failed to meet the standards of invention?

6. Did the Court of Appeals, based on such erroneous findings, err in holding that the inventions of the patents in suit were obvious to those skilled in the art in the face of the conclusive proofs that all persons who sought to solve the problem were chemists who were unsuccessful in solving it prior to Vincent the patentee of the patents in suit?

STATEMENT.

1. Denial of Due Process of Law.

These patent infringement cases, consolidated for trial in the District Court and on appeal to the Fifth Circuit, present to the Supreme Court *inter alia* an unparalleled travesty on justice. At the opening of the trial of these cases on June 4, 1951, the trial judge announced, over objection, that he would only devote four (4) days to the trial of the cases. (R. Vol. I, pp. 497-8). At the end of the fourth day,—June 7, 1951, after hearing two witnesses for respondents—Mr. Cocke, President of Suni-Citrus (R. Vol. I, p. 507) and Dr. Roy, respondents' expert, (Vol. I, p. 615) in the presentation of respondents' *prime facie* case, and three of petitioners' witnesses—Prof. Geer, expert, (Vol. II, p. 920) Kesterson to identify a vial of citrus waste glucoside, and Dr. Neal (Vol. II, p. 980) as to the alleged prior Suni-Citrus process use, the Court suspended the trial in open court and ordered all further testimony taken by deposition out of the presence of the trial judge.

At that time on June 7, 1951, the further open court hearings were continued to December 10, 1951, (Vol. IX, p. 4724) and limited to expert testimony. When the trial was resumed in open court in December, 1951, three witnesses,—Heid, expert for respondents (Vol. IX, p. 4725) and Palmer (Vol. IX, p. 4809) and Reibert, (Vol. IX, p.

4856) for petitioners, were heard by the trial judge and the proofs closed. Thus of a total of 67 witnesses, 22 called by petitioners and 45 by respondents, the trial judge saw and heard only 8 witnesses. In the interim between June 7 and December 10, 1951, as ordered by the trial judge, the testimony of 31 witnesses was taken by deposition out of the presence and hearing of the trial judge. All of these 31 depositions, plus the depositions of 28 witnesses before trial, or a total of 59 depositions, were offered in evidence as exhibits.

Of the 31 witnesses who gave out of court depositions, between June 7, 1951 and December 10, 1951, 30 of them were residents of the trial district and would have appeared and testified in open Court except for the refusal of the trial judge to hear them. These resident witnesses included Mr. Vincent, the patentee, his expert, Dr. Cotton, and other of petitioners' witnesses, as well as 23 witnesses for respondents. (Vol. I, p. 498).

After oral argument in late March, 1952, the decisions of the cases were taken under advisement. Following argument the trial judge announced that his current assignments would preoccupy him for 30 days or until late April, after which he would examine the record and render his decision. That the Trial Judge intended to decide who should prevail is shown at R. Vol. IX, p. 4855:

> MR. EDRINGTON: What about suggested findings we would like to make to the Court? That is most helpful to the Court, sir.
>
> THE COURT: I do not understand that will be in order or necessary until the Court determines who should prevail in this action.

On May 28, 1952, about 30 days after the court said that it could begin the examination of the record, comprising 9282 typewritten pages of testimony, of which only 10% was that of witnesses heard by the court, and a large mass of documentary exhibits, without determining who should prevail, the trial judge adopted as his own on the day and

at the time filed (R. Vol. I, p. 396) 63 typewritten legal size sheets of findings prepared by patent counsel for respondents and at the same time entered the final decrees from which appeals were taken to the U. S. Court of Appeals for the 5th Circuit.

The first error asserted on appeal was the trial judge's unorthodox and irregular procedure in making his findings. (See Court of Appeals Decision pp. 12-13). In considering this error by the trial court, the Court of Appeals set forth respondents' answer to petitioners' assertions, but it did not pass upon or decide that issue, although the record shows the following undisputed facts:

After taking the case under advisement, contrary to his statement above quoted, the trial judge rendered no oral decision from the bench in open Court, nor did he file a written opinion indicating which of the parties was in his opinion right and should prevail and his reasons therefor. Prior to May 28, 1952, respondents had filed a brief, but had not filed any suggested findings. The question arises: How did respondents know that the trial judge contemplated deciding favorably to them on each and every one of the multitudinous defenses pleaded warranting preparation of findings of fact sustaining each and every one of them?

Petitioners were given no notice whatsoever relative to the findings prepared and submitted by respondents. The first notice thereof reached them after May 28, 1952,—that is some time after the day on which the findings and decrees were filed by respondents and signed by the trial judge. The conclusion is inevitable that the trial judge must have communicated his intentions to counsel for respondents privately and in secret without any notice to petitioners and without affording to petitioners an opportunity to be heard in opposition to such suggested findings by respondents. Had petitioners had such notice they could have readily shown to the trial judge that most of relevant findings were unsupported by the evidence warranting their rejection;

that many of the facts material to a due consideration of the cases were omitted from the findings.

This Court, therefore, is asked to decide whether the failure of the Court of Appeals to pass upon this serious procedural question was error and whether, under such circumstances, petitioners have been afforded a fair trial of these causes of action and denied due process of law.

Under the Rules of Civil Procedure it is the universal custom for a trial judge taking a case under advisement to decide it either orally from the bench or by written opinion. As is the adopted practice, when there is a decision without findings of fact, the trial Court orders the prevailing party to file with the Court, within a fixed time and on notice to the opposing party, proposed findings of fact in consonance with the Court's opinion. This notice requirement means that a copy of the proposed findings is served on the opponent thus affording to him the opportunity of excepting thereto and citing the record to support his objections.

No such procedure was followed in this case. The failure of the Court of Appeals to disapprove of this high handed method of fact findings in the trial Court will inevitably result in the trial courts' continuance of these improper modes of procedure, contrary to letter and spirit of the law and justice.

We concede that in a complicated case, and more so as here where three infringement suits involving 3 patents are consolidated for trial and a voluminous record ensues, that the Court has the right to openly call on the prevailing party to submit findings in consonance with the trial court's opinion or decision, but the Supreme Court and the Appellate Court should not subscribe to a procedure in which this is accomplished *sub rosa* without notice to the opponents.

This mode of procedure is particularly objectionable and offends justice where, as here, the findings covering 51 printed pages (R. Vol. I, pp. 199-250) are signed the day they were tendered privately to the trial judge, evidencing

a complete lack of opportunity to read them through, much less check them against the record with which, as to at least 90% thereof, he was totally unfamiliar.

Of more than passing interest and well known to the Court of Appeals is the fact that the depositions of 5 witnesses referred to specifically in findings 34 and 43 (R. Vol. I, pp. 218 and 233) could not have been considered or read by the trial court since at the time the record was designated for appeal and as they first appeared in the record as filed in the Court of Appeals the envelopes containing these depositions were sealed and in the same condition as received in the mail by the Clerk of the trial Court from the Notary taking the depositions. It required an order from the Court of Appeals to its Clerk to open these envelopes so these depositions, at respondents' request, could be printed as part of the appeal record. (See Certificate of Clerk, Court of Appeals, Printed as an Appendix to this Petition).

In *Matton, etc.* v. *The Dynamic,* 123 F. (2d) 999, 1001, and repeated in *U. S.* v. *Forness,* 125 F. (2d) 928, 942, cert. den. 316 U. S. 694, in stressing the grave importance of accurate fact finding, it was said that findings of fact should represent the trial judge's own determination and not the long, often argumentative statements of successful counsel, and that the better practice is to file findings with the opinion and permit the parties to file objections rather than to mechanically adopt findings prepared by the successful litigant.

Notwithstanding that on the appeal petitioners pointed out in detail that many of the findings were mere gratuitous statements of counsel, totally without support in the record, and that others were distortions of the facts which petitioners had no opportunity to correct below, and the failure of the Trial Court to include others material to a proper decision of the cases, the Court of Appeals disregarded all this. It imparted to the illegally adopted, erroneous and inadequate findings unwarranted finality and conclusive-

ness resulting in the erroneous affirmance of the decrees of the trial Court.

That it may adequately consider *inter partes* this miscarriage of justice, this Court should grant certiorari herein. Rule 52 of the Rules of Civil Procedure never contemplated *sub rosa* communications between a trial judge and one of the litigants prior to a decision of a submitted case. Such future abhorrent practices in the Federal District Court, countenanced by the Court of Appeals, can only be rectified and prevented by a decision of the Supreme Court in this case.

2. Legal Issues Presented by Erroneous Decision of Court of Appeals in Applying the Proper Criteria of Invention Are of substantial National Importance.

A principal legal issue presented by these cases is whether or not the courts below have, in holding petitioners' patents invalid for lack of invention over the prior art, "applied the proper criteria of invention". That certiorari may properly be granted for the resolution of this issue was established by this court in *Great Atlantic & Pacific Tea Company* v. *Supermarket Equipment Corporation*, 340 U. S. 147; 87 U. S. P. Q. 303, hereinafter referred to as "The A & P Case". This issue is one of very substantial national importance, since the standard applied in the present case is typical of that now being generally applied by the U. S. District Courts and the Courts of Appeal, and the application of this standard has resulted in the substantial nullification of the patent law by the Federal Courts. In 1952, for instance, the Courts of Appeal held 32 patents invalid as against 3 patents valid and infringed. This spot check by petitioners' counsel does not include decisions holding against patentee solely on grounds other than invalidity, such as non-infringement. Another survey reported in Fortune Magazine for December, 1954, page 198, and covering a single circuit reports that the Court of Appeals for the Second Circuit decided 37 out of 38 patent cases reported from 1948 through 1953 adversely to the patentees.

That there has been in recent years substantial departure from prior policy is attested by the many decisions commenting upon it which have appeared during the past few years.[1]

This shift in judicial policy has impaled the Patent Office upon the horns of a dilemma. It must either conform to the standard of invention now indicated as proper by the courts and curtail the grant of patents by at least 90%, or continue to grant patents in accordance with its own best judgment and thereby create an unsavory situation in which the Government encourages the inventor with one hand to make his invention public at considerable personal expense, by offering him patent protection, and then reneges on its contract by grabbing the patent away from him with the other hand in more than 90% of the cases in which it has become valuable. While adoption of the second alternative is offensive to the most elementary sense of justice, it will also be appreciated that the Patent Office can scarcely reverse a policy which has existed for more than a century, with the implied approval of Congressional appropriations, and dismiss 90% of its employees, merely on the basis of extrapolations by the lower courts of a single Supreme Court decision (the A & P case) which may well have been intended to lead to no such farreaching result.

Accordingly, if the Supreme Court considers that the standard of invention currently applied by the Courts of Appeal is correct, several representative decisions applying that standard should be reviewed and upheld in order that the Patent Office may have a clear and unequivocal justification for the radical revision of an interpretation of Congressional intent as to patentability which it has fol-

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[1] *Spring-Air* v. *Ragains*, 96 Fed. Supp. 79; *Lenox* v. *Landers*, 188 F. (2d) 744; *Van der Horst* v. *Chromium*, 98 F. Supp. 412; *F. C. Russell Co.* v. *Comfort*, 194 F. (2d) 592; *Trico Products Corp.* v. *Delman Corp.*, 180 F. (2d) 529; *Norris* v. *Ohleen*, 88 U. S. P. Q. 65; *Miller* v. *Tilley*, 178 F. (2d) 526; *Alemite* v. *Jiffy*, 176 F. (2d) 444; *Lebold* v. *Marzall*, 100 F. Supp. 867.

lowed without Congressional objection for more than 50 years.[2]

If, on the other hand, the Courts of Appeal have been unduly sweeping in their interpretation of the *A. & P.* decision, and it is not the intention of this Court to eliminate patents as a significant feature of the American economic system, representative cases involving the standard of invention should be reviewed and reversed in order to avoid further error.

In connection with the adoption of either alternative this Court must face three questions:

(a) The Constitutional Question:

Is this divergence between the standard of invention applied by the courts and that applied by the Patent Office, attributable as stated by Justices Douglas and Black in the *A. & P.* decision to the fact that "The Patent Office, like most administrative agencies has looked with favor upon the opportunity which the exercise of discretion affords to expand its own jurisdiction"? Or, does it on the contrary represent an attempt *by the courts* to expand *their* jurisdiction to the determination of matters upon which the administrative employees of the Patent Office are, on the basis of both training and experience, better qualified to pass? Are not the graduate engineers employed by the Patent Office entitled to have as much deference paid to their decisions on such essentially technical matters as patents as the courts seem ready and willing to accord other administrative agencies made up of "lame duck" poli-

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[2] Patents granted per capita in Year 1900 3.4 per 10,000 population. Patents granted per capita in Fiscal Year 1954 2.4 per 10,000 population. This figure would clearly indicate that the Patent Office has *not* during the past 50 years lowered its standard of invention, or sought to expand its sphere of influence. If its application of that standard, so long adhered to, has not during that period been questioned by Congress, this fact would seem to clearly indicate Congressional acquiescence therein.

ticians having few qualifications for their positions aside from their past political services to the party in power?

Moreover, the grant of patents is an administrative function, the performance of which is entrusted by our constitution to the Executive Department of our Government,—not a judicial function, entrusted to the courts. Judicial interference is accordingly justified only on the basis of the presentation of material evidence not considered by the Patent Office, or when that agency has clearly exceeded its statutory authority. This leads to:

(b) The Statutory Question:

Does the standard of invention now followed by the Federal courts conform to the intent of Congress? This intent has been recently restated in the Patent Act of 1952, which has been cited by the Court of Appeals below in support of its opinion. (Court of Appeals Opinion, pp. 22-24) The commentary on this new law published in Title 35 of the U. S. Code Annotated, indicates at pages 22-23, the belief that "some modification was intended in the direction of moderating the extreme degree of strictness exhibited by a number of judicial opinions over the past dozen or more years, that is, some change of attitude more favorable to patents was hoped for". The commentary goes on to point out that the court decisions have thus far "taken the view that no change was intended". However this may be, there would appear to be a substantial difference between a new idea which is merely "not obvious" (the wording of the new statute) and one which "pushes back the frontiers of chemistry, physics and the like" as specified by Justices Douglas and Black in the *A. & P.* case. Even if construed most unfavorably to inventors this statutory language would scarcely appear to justify the extension of an extreme version of the "unusual or striking consequences" test laid down by the majority of this court for application to mechanical combinations of old elements to all patent cases including those which, like petitioners', in-

volve chemical processes. Consequently, this court should now not only review the extent to which extreme interpretations of its decision in the *A. & P.* case may have departed from the proper standard of invention as understood by the court at the time that decision was made, but should also pass on whether or not that standard still conforms to the intent of Congress in the light of its subsequent legislation having the stated purpose of restating the existing law as understood by Congress.

(c) Finally, There Is the Policy Question:

Be it assumed that the courts have not exceeded their constitutional authority by substituting their judgment as to the proper standard of invention for that of the Patent Office. Assume further that the standard now followed by the Courts of Appeal is within the area permitted by statute. Even so, does the extreme position adopted by the Courts of Appeal within that area represent sound judicial policy in accordance with the national interest?

It is respectfully submitted that the niggardly policy now in effect, restricting the compensation available to inventors, discourages invention itself and will, if long continued, slow the industrial progress of the country, reduce the number of new industries established, and curtail the opportunities offered our young men in both industry and research. It will also tend to strengthen the very monopolies many judges, including those who decided the instant case below, think they are thwarting by striking down the limited "monopoly" involved in a patent.

Since this problem is one of major importance petitioners urgently pray that the court give special attention to the next few pages.

Inventions do not come about because some mental giant sits himself down in a comfortable chair and waits for "a flash of genius". They come because ambitious men expend time and money in intelligently directed research and experiment. This research and experimentation costs

money. The only way in which any man not under contract to a large corporation can hope to benefit by such efforts is by securing a patent. He cannot pay the cost of research out of future profits as a large corporation may, since so soon as he places a good new unpatented item on the market, the large corporation with its cheaper unit costs can adopt this item and undersell the small producer, without compensating him for his research costs. If his chances for securing a valid patent are reduced to the vanishing point, as the courts are now reducing them, independent research is thereby made economically impossible. The result is to entrench the large corporation and free it from effective competition. The present situation, with large numbers of patents granted and few held valid, is ideal for the large corporations. The small company cannot afford the cost of litigation to enforce its patents with the prospects for a favorable result 10 to 1 against it. The patents of large corporations will, however, be respected by other large companies which likewise own patents on a more or less reciprocal basis. The small company which cannot afford the expense of litigation even though it might win, would gain nothing by invalidating the patent of a large corporation for it would thereby merely bring about an open field, and no advantage to compensate for the expense. With research and resulting invention restricted to the large companies, they are also necessarily narrowing their endeavors to lines in which they are interested, and lines of inquiry which might produce new and upsetting results highly beneficial to the public at large are likely to be ignored. This is fine for the big companies, but in the long run stagnating for the country.

Another point about invention not always appreciated by those who have not made a study of the matter is the degree of interdependence between inventions. The man who comes up with a worthwhile idea very seldom conceives it full blown from his own genius. He not only conducts extensive experiments, but he studies the results obtained

by others in related fields, not merely with a view to using their teachings *in toto* if they are applicable to his problem, but also in the hope that he may receive from them some suggestion which he may successfully apply, often in greatly modified form, to his own project. The more numerous the available sources the more fruitful his own research is likely to be. Those engaged in "pure science" use, of course, their scholarly periodicals for this purpose, but the man looking for a practical solution to an immediate problem orders a "search" at the Patent Office. The Patent Office classified collection of U. S. and foreign patents and the Technical Library maintained in connection with them constitute the most important center of technical industrial information in the world today. This information is available gratis to all our citizens, and to foreigners as well. Washington's Patent Attorneys handle hundreds of inquiries for such information daily. It's value is today inestimable. But this value will continue only so long as patents are issued freely and their validity ordinarily sustained, since it costs an applicant money to bring his idea to the Patent Office and only cranks will do it if the prospects for reasonable compensation continue as bleak as they are today. Moreover, many inventions which relate to methods of manufacture rather than to the structure of the finished article can be held as "trade secrets" the possession of which may secure to their inventors a substantial commercial advantage. This was the usual practice for many centuries before the industrial revolution and the Patent System was specifically designed by the British Government to break it up. An extreme example appears to have been the invention of the electric battery in Baghdad at about the time of Christ, mentioned in Gamow's "Birth and Death of the Sun", p. 33.[3] These batteries are believed to have been used for electroplating but were apparently

[3] Viking Press, New York, 1953. Prof. Gamow is Professor of Theoretical Physics of George Washington University and one of America's leading scientists.

kept secret for commercial reasons by a relatively few local families.[4]

Other processes of commercial value were kept secret by certain cities during the Middle Ages, and still others of various guilds of craftsmen. The modern patent system had its origin in England in 1331 when the British crown offered the exclusive right to ply their craft in England to certain Flemish weavers if they would come to England. Like grants were later made to clockmakers from Delft in 1368, and to miners from Bohemia in 1452. In this manner the British government sought to bring to England the most advanced technical skills and knowledge of the day even when that knowledge first flowered in other countries and thus break up the monopolies held by other countries by reason of secret processes. Beginning in 1561 this policy was extended to the granting of patents to the domestic originators of new industries, and by 1700 England had a well established system for encouraging inventors to bring their discoveries to public attention by granting patent protection.

In 1705 Newcomen built the first steam engine put to practical use, thus ushering in the "Industrial Revolution" in England, which preceded by 50 years the corresponding changes in Continental countries, which had at that time no comparable patent systems. The contribution made by the patent system to the industrial primacy attained by England at that time is well recognized. See, for instance, the article headed "Industrial Revolution" in the Encyclopedia Americana[5] which in discussing the political reasons why England took the lead in industry during the period says:

> The political situation in England was such as to ensure domestic tranquility and the security of prop-

[4] It was not until its rediscovery hundreds of years later that this long held secret became available to the public.

[5] Volume 15, 1947 Edition, page 97.

erty rights, which were essential to the development of manufactures. In this connection might be mentioned also the breaking down of the restraints of the guild system and the development of a good system of patent law.

The same article then specifically mentions nine inventions which its author considers of foremost importance in the industrial revolution.

Eight of these are attributed to individuals, and of these 8 it is noteworthy that six were patented. In one of the other cases the invention constituted a development of a previously patented invention and the authorities of that day succumbed to the argument that his device did not amount to invention. In the remaining instance the inventor could not afford to prosecute an application but published his invention after being promised reimbursement by a group of manufacturers,—who then reneged.

The subsequent contribution of the American Patent System to the economic development of this country is discussed at length in the Encyclopedia Americana article on Patents, under the subhead—"The Patent System, an Industrial Foster Parent".[6]

That a high incidence of invalidity is going to discourage the inventors of worthwhile improvements from spending the money required to make their contributions of record in the Patent Office and encourage a policy of secrecy as to new processes and methods of manufacture is believed obvious. And the dangers of any policy which discourages the free interchange of technical information have been graphically illustrated by the problems encountered by the Atomic Energy Commission. Since most of their work does not have immediate commercial value and all of its employees are working for a single employer—the Government, so that there is no conflict of interest, the absence of patent protection in this field does not in itself result in any limitation on the free exchange of information within

[6] Volume 21, 1947 Edition, page 387.

the agency. However, the exigencies of military security have imposed on the various departments within this agency for political reasons a close-to-the-chest policy much like that which the absence of patent protection would impose on the individual firms making up our national economy. The consequences have been described by one of the Commission's nuclear physicists—Dr. Ralph E. Lapp, in Collier's Magazine for July 5, 1952, in an article entitled "Too Many Secrets Spoil the Atom", beginning on page 15 and continued on page 79, as follows:

> It is bad enough to surround any activity with a wall of secrecy, but when the activity itself is criss-crossed into separate subdivisions of secrecy, then you have a situation which defies progress. In the language of security officers, this process is known as "compartmentalization of secret areas".
>
> Our wartime A-Bomb project was strictly compartmented. One can only guess how much this slowed down progress, but there is no doubt that it did. The writer vividly recalls the instance of a secret laboratory to which his staff was forbidden access. Scientists in the laboratory desperately needed special instruments for dealing with radioactivity. To get that word out they had to "bootleg" the information along the scientific grapevine! Only because the barrier was thus breached were we able to save them many months of time by helping to develop those instruments. . . .
>
> A much more important example of the harm caused by these secrecy compartments may be found in the development of atomic missiles, those with atomic bombs as war heads. Due to the Atomic Wall, the people responsible for developing guided missiles were not permitted access to data about A-Bombs. Consequently, for a considerable length of time the atomic project and the missiles project took divergent paths. This situation has now been rectified, but valuable time has been lost.

The policy now followed by our Courts of Appeal does not, of course, legally require the individual manufacturers in this country to adopt a policy of secrecy leading to com-

partmentalization of our industrial system,—it merely makes it financially unrewarding to follow any other policy —a much more effective procedure.

To summarize, the issue of the proper standard of invention involves the questions of whether the courts are exceeding their constitutional authority by substituting their judgment as to the proper standard of invention for that of an administrative agency constitutionally charged with the duty of administering the Patent Statutes *in the absence of any evidence whatever showing that agency to have exceeded its statutory authority;* whether the Patent Office has in fact exceeded its statutory authority; and whether a continuation of the current strict construction of that authority can be justified as sound judicial or public policy in view of the substantial discouragement which it offers to the free interchange of industrial information as to novel technical advances in the manufacturing field?

These are questions which should be finally passed upon by this Court and the instant case is one in which they are clearly raised.

The decision below exemplifies in its initial paragraph the antagonistic attitude towards patents now prevalent in the Federal Courts and this basic attitude has prevented the courts below from giving to petitioners' cases the impartial consideration to which petitioners, like any other citizens, are entitled. The decision below has, moreover, interpreted the standard of invention laid down in the *A. & P.* decision for mechanical combinations as being applicable to petitioners' chemical processes, overturned the considered judgment of the Patent Office as to patentability primarily on the basis of prior art considered by the Patent Office at the time the patent was granted without giving any real weight to the presumption of validity arising from said grant, and construed the Patent Act of 1952 as supporting its position. The case accordingly offers an excellent opportunity for this Court to reexamine and restate its position on each of the major points involved on the "proper standard of invention" issue.

3. The 865 Reissue Patent in Suit.

To show the errors by the Court of Appeals, in holding the patents invalid, requires an explanation of the Vincent patents in suit, the prior art and the advancement in the art discovered by Vincent.

The patents in suit (865, Vol. X, p. 4863, and 363, Vol. X, p. 4875) relate to improvements in methods or processes for the conversion of naturally bitter non-pressable acidic citrus waste into a better and more valuable non-bitter, and highly water absorbent, bulkier, dry cow feed.

The process as disclosed in the specification of the 865 Reissue patent and defined in its claims consists of a series of steps in combination whereby the greatly improved and desired results can be obtained within 5 minutes due entirely to the manner in which the critical and exact amount of alkaline reagents (principally calcium hydroxide, commonly known as slack lime) is added to various types of waste having varying unknown acidities. The 363 improvement patent provided a new and novel method of adding the lime to the waste in combination with entirely new drying steps resulting in a more desirable and valuable dry cow feed than that produced by means of the process of the 865 reissue patent or the prior art.

(a) Citrus Cannery Waste.

Citrus cannery waste is the term applied to rejected or culled unjuiced whole citrus fruit and to the peel, rag (membrane) and seeds of grapefruit, oranges, tangerines and lemons remaining after the extraction of the fruit's juices.

The acidity contents of such waste is as varying as is the variance in acidity of the juices of different types of whole fruit. The acidity of the same type of fruit and its waste will also vary considerably depending upon the season in which the fruit is picked, its state of ripeness or the type of soil in which the trees bearing the fruit are grown.

In its natural state the peel of the juiced fruit contains 80 to 85% water. Colloidal substance in the peel of the

fruit such as glucosides, oils and pectins tenaciously bind and hold the water therein, making it impossible to press out any portion of this high percentage of water by any mechanical means, or to satisfactorily dry it by the mere application of heat.

In the early stages of the citrus industry it was found that cattle would eat citrus waste, but when fed to dairy cows certain ingredients therein embittered their milk. Unsuccessful attempts were made to use the waste as a fertilizer. The disposal of citrus waste presented a costly problem as it spoils quickly and had to be hauled to disposal grounds and buried.

(b) Problems Faced by Vincent.

Prior to the discoveries of Vincent which led to his patents in suit, those working in the art had as their sole aim the conversion of the green unpressible waste into a pressible state so that some of the bound water therein could be removed by mechanical pressing, thus not only rendering it partly water pressible but also lowering the otherwise prohibitive cost involved in previous attempts to dry the waste without treatment. To accomplish pressibility the workers in the art had discovered that alkaline reagents, principally slacked lime, (calcium hydroxide) when applied to the waste and allowed to react therein for long periods of time, would convert the waste from a non-pressible to a pressible state. However, the prior art processes left much to be desired. To secure pressibility all of the prior processes, except that of Cole & Hall later discussed, overlooked entirely that the varying acidities of the waste required varying amounts of lime for its proper treatment, by specifying the addition to the waste of predetermined insufficient amounts of lime stated as a percentage of the weight of the waste. Because the amount of lime used was invariably insufficient, resort was had to long ageing or reaction periods to bring about a pressible state in the thus treated waste. The application of a fixed

amount of insufficient lime and its required long reaction on the waste to attain pressibility had the following highly undesirable results:

(1) The specified percentage of lime based on the weight of the waste was insufficient to neutralize and render alkaline any part of the acidic waste.

(2) The required long reaction period or ageing permitted such insufficient lime as was added to convert the pectins in the waste into large quantities of calcium pectate which, in course of the long reaction or ageing step the calcium pectate so formed, hardened resulting in a pressible product which was either hard and wood-like or fibrous.

(3) On drying the ensuing presscake the finished dry feed was brittle, lacked bulkiness and the large quantities of hardened calcium pectate therein was non-water absorbent.

(4) The processes were long and discontinuous.

(c) What Vincent Did.

It was to improve the dry cattle feed of the prior art that Vincent devoted his energies and inventive faculties. What he did, as disclosed in his application for patent filed January 12, 1939, which matured as his original 944 patent, (R. Vol. X, p. 4869) was to make radical, surprising and important improvements in the art and thereby provide a process in which in a short continuous process he could use the lime of the prior art in the treatment of citrus waste but obviate all of the undesirable prior results. By the processes of his patents, contrary to the prior art, Vincent produced a superior dry cattle feed from citrus waste which eliminated all of the prior undesirable features. The dry cow feed produced by the Vincent patent method was,—

(1) Substantially non-bitter,
(2) Fluffier and of greater bulk,

(3) Comparatively free of hard calcium pectate,
(4) Much more water absorbent, and
(5) Produced in a continuous process.

These brought about desirable, but up to then unobtainable, features are attributable solely to Vincent's discovery of a means by which the critical and exact amount of lime could be added to the waste, at the commencement of the processes to bring about a neutralization and desired degree of sufficient alkalinization of the free acidic liquids associated with the waste[7] but insufficient in amount to affect or change the state of the residual acids within the solid peel particles of the waste, without the necessity for pre-determining or knowing the extent of acidity of the particular waste presented in a continuous flow to a citrus waste feed mill for treatment, and thereby bring about with the use of lime in 5 minutes, or by the use of calcium carbonates in 10 to 15 minutes, soft and pulpy pressible solids from which a greater portion of the water originally bound in the waste could be expressed by mechanical means and the ensuing presscake when dried by heat lacked the disadvantages of the dried feed made by the prior art processes.

As a dependable and infallible guide to the addition of the critical amount of lime to meet the unknown varying acidity of the citrus cannery waste presented for treatment and produce the aforementioned desired alkalinity, quick reaction and improved results, the Vincent patents in suit disclose two readily observable changes in the constituents of the waste, both brought about simultaneously, either of which singly or together can be relied upon and used by anyone, including those unskilled in the art, as a guide as to the proper amount of reagent to be used. One is a change in color from the natural yellow-green color of

[7] Free liquids of the waste refers to the acidic fruit juices left in the waste following the juicing operation and contained in whole culled fruit freed by the shredding of the waste.

the acidic liquids of the waste to a brown color and the other is an increase in viscosity of these free liquids forming a brown colored gel.[8] The readily observable change in color to brown and increase in viscosity of the brown liquids of the waste at the very commencement of the process is indicative that the exact required amount of lime to bring about the improved results of the Vincent patents has been employed to meet the unknown acidity of that particular waste.

The observable changes in color and increased viscosity hereinbefore described and disclosed in the patents in suit only take place when lime is added to the waste as specified in the patents in suit. If the amount of lime added be insufficient to alter the acidity of the liquids of the waste to the desired alkaline state, no gel is formed and the 5 minutes reaction does not take place. With the addition of an insufficient amount of lime a pressible state can only be attained by allowing the insufficient amount of lime to react on the waste for inordinate long periods of time in the course of which undesirable hard calcium pectates are formed resulting in hard, woody and fibrous pressible solids and resultant undesirable dry cow feed. If an amount of lime be added to the waste which is in excess of that required to change the color of the liquids of the waste to a brown color and form the brown collapsible gel, such excess will over alkalize all the acids in the waste, will not produce the brown gel and render the waste red in color, malodorous and unfit as a food product.

By controlling the desired amount of lime as will produce the brown color of the liquids, bring about their increased viscosity and form the brown sweet tasting gel, the residual acids in the solid peel particles unaffected by the lime, under later slow agitation following the gel formation, will dissolve and exude or seep out of the solid peel particles and serve as an acidic medium to progressively lower the

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[8] For definition of "gel" see Funk & Wagnall's Dictionary under word "gel".

alkalinity of the gel so that as the overall alkaline state of the waste approaches neutrality or thereby becomes acid again, the gel will collapse or break thus releasing therefrom the waters of the waste occluded in the gel at the time the reaction of the lime makes soluble the glucosides and forms the gel. Upon the gel's collapse there remains a completely new and changed two phased product composed of soft pulpy solids and easily expressible liquids known as press water and referred to in the claims of the reissue patent as "mother liquor".

The pressible solids are soft and pulpy by reason of the fact that the amount of *lime* employed does not remain in contact with the pectins in the waste for more than about 5 minutes during which short time such small amounts of calcium pectate as may form remains soft and water absorbent.

The inventions of the 865 reissue patent in suit provide a truly continuous, quick and greatly improved process omitting the long periods of pre-ascertainment of acidity, ageing, heating and other cumbersome and inadequate treating steps of the prior art processes.

4. The Improvement Patent 383.

Following the grant to him of his 944 original patent on September 24, 1940, Vincent's continued work in the citrus waste processing art brought him to the realization that a better and more valuable dry cattle feed could be produced than that obtainable under the process of his original 944 patent. The application of dry lime in its natural powdery state to the waste had certain disadvantages in that in the attempts to mix the dry lime into the shredded waste particles it did not efficiently reach some of the free acidic liquids held by capillary attraction to each of the shredded particles of the waste.

He further discovered that in the course of drying the presscake by the then currently known and used methods, consuming from 45 minutes to one hour and a half, the

residues of the alkaline material in the presscake continued its undesirable reaction on the pectins in the waste throughout these long drying periods. To shorten the drying time by a more efficient means of drying and thus abort further undesirable reaction, has been found of great importance.

The solution to these two problems was set forth and claimed in the 363 patent (Vol. X, p. 4875, *et seq.*) granted May 24, 1949, on an application therefor filed November 27, 1945, within a year following Vincent's installation of a plant at Tampa, Florida, designed to make use of said improved processes.

The new and improved Vincent method of lime addition of the 363 patent consisted in employing a portion of the acidic press waters piped from under the press to a sump into which, in the condition in which the waste comes from the juicing plant, it falls at the point where it is ready to be treated with lime. On the incoming flowing stream of press waters the dry lime, in such controlled varying amounts as required by the acidity of the liquids of the waste to be treated is introduced resulting in the desired alkalinization of the acidic press waters. The lower end of an inclined chain paddle conveyor functioning to carry the treated waste to the shredders churns up the waste in the mildly alkaline press waters in the sump resulting in coating the entire inner and outer surface of each piece of waste, thereby bringing about a more complete desired neutralization and alkalinization of the free acidic liquids clinging to the surface of the waste. The thus thoroughly coated and treated waste together with a portion of the alkaline press waters in the sump are carried up an elevator and delivered into the shredders. The shredding operation exposes additional acidic coated surfaces of the waste which are treated effectively in the course of shredding by the portion of the alkaline press waters carried up by the elevator with the waste. As in the 944 patent the amount of lime added to alkalize the press waters is that exact amount as bring about the change in color of the liquids of the waste at the very commencement of the process. Following the shred-

ding, the thus treated peel particles are subjected to a two minute quick mixing operation to assure proper reaction of the limed solution in the course of which the viscosity of the liquids increases resulting in formation of the brown gel. As in 944, the residual acids in the peel particles not affected by the lime bath at the commencement of the process exude therefrom under gentle agitation, bringing about the collapse of the gel as first disclosed in 944 resulting in soft pulpy solids and pressible liquids.

The novel drying steps of the 363 patent, result in a completely dried feed in less than 10 minutes. This quick drying prevents, as occurred in the earlier drying procedures, the further formation of hard calcium pectate. By the 363 patent the presscake falling from the presses are dried in a combination of machinery units consisting of a drum drier, an expansion chamber and a cooling reel all operated under a vacuum or subatmospheric pressure. The combination of the new method of treatment and drying results in a superior type of dry cattle food.

The new treating steps of the 363 patent are set out in claim 1 and the drying steps in combination with the treating steps are delineated in claims 8, 9, 10 and 12 of the 363 patent.

In petitioners' brief before the Court of Appeals it was pointed out that the findings of the trial Court (Finding 30, Vol. I, p. 216) were totally erroneous in finding that the only improvement in the 363 patent is the dual addition of lime at two points in the process and in failure to find that such dual or two shot addition of lime was only a preferred method. The 363 patent specification plainly stated in Col. 5, lines 50-63 that—

> If the second liming operation is omitted, as in the case of a temporary shut down of the (second) feeder 12 the (first) feeder 6′ can be operated either by automatic or manual control to deliver a greater quantity of lime sufficient for the entire operation in mixing trough 9, but in this case the operator must watch the color changes more closely and may have to add water

containing weak acid from some operation in the cannery or from the press to correct any excess of alkalinity.

Thus Minute Maid's one shot application of "controlled varying amounts" of lime in the press waters in sump 9 was in exact accordance with the Vincent 363 invention as above quoted. The Court of Appeals, nevertheless, allowed said erroneous findings to stand.

In its opinion, p. 11, footnote 7, the Court of Appeals reproduced certain concessions made by petitioners that some of the treatment steps of the 363 patent were old, but it failed to report what was evidently new as stated in petitioners' brief as follows:

> * * * the crux of the novel and new lime treatment features of the 363 patent as defined in claim 1 of the patent resides—
>
> (1) In the employment before shredding of a lime water bath to thoroughly coat the inner and outer surfaces of the green waste thus obtaining a quicker and more complete desired neutralization of the acidic juices associated with the waste.
>
> (2) In carrying up a portion of the (alkalined) bath water with the treated peel into the shredder where the limed water present in the shredding operation was available to coat the newly exposed portion of the peel resulting from the shredding operation.
>
> (3) In insuring the desired thorough, complete and rapid neutralization of the free acids would take place after the shredding operation by the employment of an efficient quick mixing step thus contributing to the further prevention of the formation of calcium pectate.
>
> (4) Shortening the time during which the lime could react on the waste to prevent the formation of hard, non-water absorbent calcium pectate by the use of limed press water of sufficient lime concentration to neutralize the free acids of the waste but of

insufficient concentration and duration of time to materially react on the pectins of the waste.

None of these steps had ever been employed in combination in the prior art, and all of them, as outlined above, were totally new.

(a) The Court of Appeals Completely Disregarded the Novel and New Combination of Drying Steps of the 363 Patent—Which Alone Was An Important Invention.

No prior art or use was claimed by respondents to anticipate the new drying steps of the 363 patent. Respondents conceded they were new. (See footnote 5 of the Court of Appeals Opinion, p. 1 of Appendix A hereto.) They conceded that the process of the 363 patent produced dry feed with a minimum of fines and was superior in quality to any in the State. It was lighter colored in appearance and definitely of lighter bulk density than the average feed examined. The proofs were, without contradiction, that feed manufactured by the 363 process required the largest bag in the industry to hold the standard 100 pounds of feed and was preferred by buyers over all other feeds. (T. Hughes, Vol. IV, p. 2042).

Notwithstanding all of these proven and admitted advantages of the 363 patent, only granted after Examiners from the Patent Office visited Florida and observed the process in operation, the Court of Appeals following the erroneous findings of the trial judge, held the patent anticipated by the prior art and failed to meet the standards of patentability.

In so deciding the Court of Appeals overlooked entirely the new and admittedly novel drying steps which in themselves as claimed constitute a new drying process and a patentable invention. It overlooked the fact that the 363 process from green peel to dry feed in bags, was completed in the Minute Maid plant in 12 minutes (T. Dr. Roy, Vol. II, p. 620) whereas under the process of the 865 reissue as employed by Suni-Citrus, the process from green peel to dry feed in bags was 42 minutes or more. (T. Vol. VIII, p. 4069).

The advances in the art disclosed and claimed in the 363 patent were surprising, unexpected and unknown in the prior art,—so much so that the majority of feed mills in Florida quickly adopted it *in toto* and put it to use.

If the Court of Appeals is correct in its decision with respect to the 363 patent then it is a foregone conclusion that chemists working on processes which may be of importance to the future welfare and advancement of the arts in medicine and industry can never expect patent protection as a reward for their ingenuity and work.

That the 363 method of drying citrus waste presscake was a decided advance in the art is shown without dispute by the following facts. No one prior to Vincent's 363 patent had given any consideration to the continued reaction of lime on the presscake in the drying thereof. The old lengthy open drum drying methods were used until Vincent came along and lighted the way to a novel and more desirable subatmospheric drying method resulting in a quicker and better drying method and the production of a superior dry cow feed that commanded top prices and was preferred to those feeds dried by the old methods. The industry has reaped the benefit of Vincent's inventorship without reward or recognition to him. That is contrary to the very aims and purposes of our patent system.

5. The Court of Appeals Erred in Holding the Patents in Suit Anticipated by the Prior Art Patents.

As reported in the decision of the Court of Appeals at pp. 18 and 19,[9] (215 F. (2d) at pp. 313-314) it was petitioners' contentions that Vincent's inventions reside in his combining old and new steps to bring about new and improved results; that he was the first to make available to the citrus waste industry an efficient and commercially feasible "continuous process" teaching the application of "controlled varying amounts" of lime dependent upon the dif-

[9] See Appendix A hereto.

ferent acidities of the waste to be treated, the addition of the amount of lime (to secure a desired state of alkalinity) being controlled by observing the color changes in the waste and the formation of a different colored "gel" formed.

The opinion of the Court of Appeals following the illegal and erroneous findings of the trial court, then stated:

> The use of a "continuous process" is old. It is shown in the Cole & Hall, the Cocke and Lissauer patents; and the use of "controlled (and) varying amounts" of lime is old as also revealed by Cole & Hall, Lissauer and Neal.
>
> Finally, Vincent's claimed novel method of controlling the addition of lime, through use of the human senses of sight, feel, smell and taste of the treated waste is not original with him, but has been used extensively practically ever since man began to use lime.—18

By footnote 18 of the Court of Appeals' decision there are cited under "Color", "Touch", "Feel", "Smell" and "Taste" certain specific lines of the prior art patents said by the Court of Appeals to show the *"addition of lime to citrus waste"* by means of the human senses was old.

(a) No Prior Art Patent Teaches Use of Senses as Means of Adding Lime to Citrus Waste.

In its petition for a rehearing [10] pp. 2 to 15, petitioners in the Court of Appeals reproduced the lines of the prior patents cited by the Court and pointedly called the Court's attention to the fact that the Vincent patents in suit in his method of controlling and varying the amount of lime required to bring about the results of his process did not rely on "touch or feel", "smell", or "taste" as respondents' brief contended; that the processes of the Vincent patents in controlling and varying the critical amounts of lime re-

[10] Printed copy whereof is part of the record and to be found at the rear of R. Vol. X.

quired to neutralize and bring about the desired alkaline state of the unknown varying acidities of the free superficial liquids in the waste at the commencement of the process relied solely and only on the readily observable change in color from greenish-yellow of the liquids of the natural waste to a brown color and the observation of a simultaneous increase in viscosity of the alkalized liquids forming a brown gel of short duration with a reaction time, for the forming and collapse or reversion of the gel into a watery liquid, measured in minutes not to exceed 15 minutes. With the use of lime as specified by Vincent's original 944 patent and his 865 reissue the reaction period for the change in color, the forming of the gel and its collapse was about 5 minutes, whereas with other quicker or slower reacting alkaline materials the reaction time was *2 minutes with ammonia* and from *10 to 15 minutes with calcium carbonates* (limestone, oyster shell flour and chalk).

It would serve no useful purpose and only prolong this petition to repeat here what was said to the Court of Appeals in petitioners' application for rehearing. Suffice is it to say that as reproduced meticulously in the Petition for Rehearing the very cited disclosures of the prior art patents clearly indicate that any reference to the employment of the human senses was in relation to the product at the end of those prior art patent processes and not to any means employed to determine or ascertain the correct amount of lime to be added to the unknown varying acidities of the waste at the very commencement of the process for bringing about a desired state of alkalinity, to effectively treat it.

We pointed out to the Court of Appeals with precision and detail in our petition for rehearing that the pinpointed lines of the prior art patents cited by the Court were copied verbatim by it from respondents' brief and the errors committed in accepting them as proof that the prior art anticipated. Notwithstanding these obvious errors, the Court of Appeals denied the rehearing without reasons and without corrections of its decision.

(b) The Cited Prior Art Teaches No Truly Continuous Process Adaptable to Commercial Use.

On the raised question of error in holding that the Cole & Hall, Cocke and Lissauer patents teach a truly feasible continuous process adaptable to commercial use, petitioners' application for rehearing at pp. 15 to 24, cited pertinent portions of the disclosures of these prior art patents which conclusively showed that the combination of steps therein disclosed was such that those processes could not be continuous in the sense of "continuous" as were the processes of the Vincent patents.

(c) No Prior Patent Employed "Controlled Varying Amounts" of Reagents.

At pp. 24 to 29 of the petition for rehearing the errors committed by the Court of Appeals in holding that the use of "controlled varying amounts" of lime was old were pointed out. The patents which the Court erroneously found to teach this step of the Vincent patents are referred to in detail and it was shown therein that the prior art patents cited did not disclose or suggest the use of controlled varying amounts of lime as disclosed and claimed by the Vincent patents to neutralize and obtain the desired degree of alkalinity of the acidic liquids of the waste.

It would seem that the Court of Appeals was so swayed by the illegally adopted and erroneous findings that the patents in suit were anticipated; disclosed and claimed a mere natural reaction and result or so failed to meet the standards of invention or, because held anticipated below, disclosed processes which were obvious to persons skilled in the art, that it was not warranted in recalling its opinion and correcting these obvious errors. Or, it may be that the Court of Appeals did not wish to admit that it had been misled and duped by adopting gratuitous and unsupported claims of respondents made in their brief.

Whatever was the Court's reason for denying the rehearing without assignment of reasons, it is clearly apparent that its decision in this case is wrong and should be

reversed on the questions of anticipation, as this Court will find so clearly pointed out at length in petitioners' application for rehearing. *U. S.* v. *Gypsum Co.*, 333 U. S. 364, 397; *U. S.* v. *Yellow Cab Co.*, 338 U. S. 338, 339.

It is equally clear that if the patents are novel and new as the Patent Office found after full consideration of the very prior art patents relied upon here to show lack of novelty, then the Vincent inventions were not obvious to persons skilled in the art. All the workers in the art were graduate chemists, except Vincent, yet they could not successfully solve the problem which Vincent did and which had been of such benefit to the citrus industry. Their failure to use the Cole & Hall process, their abandonment of the Neal and Lissauer processes no sooner than the 944 patent issued, and their further preference for and the use of the improved 363 Vincent patent process, are strong indications of the patentability of the inventions of the patents in suit, all of which the Court of Appeals disregarded because not included in the erroneous and improperly adopted findings of the trial judge.

The Court of Appeals in deciding the cases without any proof of record preferred to accept gratuitous statements in respondents' brief that the Vincent process was no more than the mere dumping of lime on citrus waste and no more than what had been done for years when lime was thrown in privies. That this was error see Petition for Rehearing, pp. 38-40, end of R. Vol. X.

6. Further Errors of the Court of Appeals.

In its decision affirming the District Court, the Court of Appeals because it erroneously found the patents anticipated further erroneously found the patents invalid on several grounds.

Contrary to the evidence it held that the inventions of the patents in suit—

(a) "• • • do no more than record and claim a mere natural reaction or result";

(b) because anticipated by the prior art patents—

(i) they lacked the standard of patentability and
(ii) the inventions thereof were obvious to persons skilled in the art.

(a) The Patents in Suit Do Not Record and Claim a Mere Natural Reaction and Result as Held by the Court of Appeals.

The pronouncement of the Court of Appeals that the patents in suit "do no more than record and claim a mere natural reaction or result" would be correct only if the trial court's finding supported by the evidence disclosed that the quick reactions and resulting soft and pulpy pressible solids of the Vincent inventions were attainable by the use of indiscriminate amounts of lime thereby producing its ordinary and known effect as a reagent without the intervention of man. Not only is there no such evidence or finding but the record evidence is to the contrary.

Aside from the legal presumption that the patents in suit (particularly since they were subjected to close scrutiny in the *inter-partes* Patent Office Interference Proceedings and in the prosecution of the application therefor in which the Patent Office had before it and considered the pertinent prior art relied on here as anticipations) are valid and will operate successfully and produce the improved results intended, the testimony of respondents' experts and the processes of the alleged prior art patents show conclusively that the patents in suit do more than record and claim a mere natural reaction or result.

Following his admission that citrus waste contains glucosides, a colloidal substance, and that the reaction of lime on the glucosides will bring about the color changes first understood, disclosed and put to use by the Vincent patent, Dr. Roy, Research Director for Minute Maid and expert for respondents, at Vol. II, p. 623 testified on direct as follows:

BY MR. TOULMIN:

Q. Now, Doctor, this color change, do you tell the Court whether that is an act of the nature of the ma-

terials or is it due to some extraneous action that is produced from man? What is the situation? A. If a flavenome glucoside [11] is made alkaline it will change color.

From this answer of respondents' expert it follows that if lime is added to citrus cannery waste containing glucosides having an unknown extent of acidity and the amount of such reagent is insufficient to neutralize and render alkaline the acidic glucosides therein, the color change does not take place. When such changes do take place it is evident that such change is solely attributable to "some extraneous action * * * produced by man" and this color change is not the result of a natural reaction—as held to the contrary by the Court of Appeals.

Another of respondents' witnesses, Mr. Cole, a chemist, testified as follows at Vol. X, p. 5420-21:

Direct Examination.

By Mr. Crafts: (Counsel for Respondents p. 5412)—

Q. In observing reports of the men who were under your direction and control have you ever had occasion to observe any change in color upon the addition of alkali or alkaline earth materials to pectase substance on citrus waste materials? A. Oh, yes, on many occasions.

Q. What happened? A. In handling of citrus products and waste materials it has long been observed that because of products of organic coloring materials in the rinds of these fruits, a change of pH [12] of the medium is accompanied by a change in color, the degree of color becoming more intense as the acidity is reduced, becoming very much darkened when reaching the state of alkalinity.

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[11] Glucoside is an acidic colloidal constituent of citrus waste contributing to its non-pressibility in its natural state.

[12] Change from acidity to alkalinity measurable by an electronic device known as a pH meter.

This corroborates Dr. Roy's previously quoted testimony that man's control of the amount of lime produces the color changes first disclosed and put to use advantageously by Vincent in his patents. At a date not established, Cole may have observed this color change in cases when he may have added sufficient alkaline reagent to bring about an alkaline state in the waste, but he disclosed nowhere in his patent (Cole & Hall Patent Vol. X, p. 4900) the advantageous use thereof in determining the critical amount of lime to add to citrus waste to bring about a desired state of alkalinity in the waste and its conversion into an improved cow feed.

Mr. Heid, citrus chemist and expert witness for respondents, with respect to the employment of color changes as an advantageous means of determining the correct amount of lime to be added to citrus waste with unknown varying acidities to secure a desired alkalinity testified as follows in Vol. I, at pp. 493-94:

* * * *

> Q. And you think it reasonably might be naringin that effects the color change in citrus peel? A. Yes, sir, and glucosides.
>
> Q. Naringin is one of them? A. Yes, sir. It is a glucoside.
>
> Q. Then, if the addition of lime to citrus peel that contained naringin produced a color change, that color change might be the guide for the addition of the proper amount of lime, might it not? A. I would think so.

* * * *

To better understand the foregoing proofs it may be well to explain how acidic solutions can, by man, be rendered alkaline to a desired degree.

Solutions that are acidic contain a preponderance of hydrogen ions whereas those that are alkaline contain a preponderance of hydroxyl ions. When these two types of ions are totally absent or equal or in balance, a solution is natural. The hydroxyl ions in alkaline reagent such as lime are known as electrolytes. When electrolytes are added to acidic solutions in such amounts that the hydroxyl

ions predominate an acidic solution is rendered alkaline. The extent of desired alkalinity is governed by the amount of electrolytes introduced into an acid solution to make it alkaline.

Aside from the cited testimony of respondents' experts, the alleged anticipating prior art patents are irrefutable evidence that the addition of lime regulated by the color change disclosed first by Vincent is produced by man and not a mere natural reaction and result. For instance, the Cole & Hall prior art patent (Vol. X, p. 4894) did not use lime as a reagent to neutralize and render alkaline any portion of the waste. Lime was added in minute amounts to citrus waste to create the proper environment for the successful reaction of non-alkaline enzymes[13] later added to the waste and relied upon to produce a pressible product. As disclosed, the Cole & Hall process steps were as follows (R. Vol. X, p. 4898, l. 38, L. C.):

By laboratory methods from a sample of the waste, its acidity was accurately determined. A calculation was then made to determine the amount of lime which added to the waste would lower its ascertained total acidity content to about .3% acidity. After the addition of enzymes the thus treated acidic waste had to be heated and aged for long periods of time to make it pressible. Cole & Hall did not suggest or require a desired alkaline reaction but on the contrary warned against it, for when the pH of their waste was 7.5 alkaline, just above 7 neutral, their product was malodorous and unfit for a food product. (Cole & Hall Patent, R. Vol. X, pp. 4896, Lines 71-75, R. C.; p. 4897, Lines 1-2, L. C.)

Neal, (Neal Patent, Vol. X, p. 4890) without giving any consideration to the varying acidities of citrus waste, invariably added to the waste a predetermined 6 pounds of reagent to a ton of waste, or 3% of the weight of the waste in lime. This predetermined specified amount of lime, as

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[13] A substance residing in leguminous plants such as alfalfa and clover. It is not an alkaline reagent.

Neal pre-application test reports show (Vol. X, pp. 5085-97; T. Neal, Vol. IX, pp. 4659-4669) could not have been sufficient to render alkaline the acidic glucosides in the free liquids of highly acidic grapefruit waste, used in his tests for in said test reports as in his patent, he noted no color change, got no five minute reaction with lime as does Vincent; but on the contrary, Neal found and required in his patent application based on said tests including tests made with calcium oxide, that the ageing of the .3% lime treated waste for from 2 to 3 hours, or preferably over night, was necessary to obtain a pressible product.

The only requirement of the patent to Lissauer (Vol. X, p. 4904) was the addition of lime within a range of .3% to .5% based on the weight of a "certain grade of grapefruit." His patent does not suggest or require that the waste, its liquids or any part of it be rendered alkaline. He reported no change in color which strongly indicates that the acidic liquids of that "certain grade of grapefruit" were not neutralized and rendered alkaline by his specified amount of lime. Lissauer's avowed purpose was to harden the pectins in the waste. He, as did the other prior art workers, attained this hardening by subjecting his lime treated waste to long reaction times. (Trial Court's Finding 15, R. Vol. I, p. 205, Line 11.)

The early patent to Maercker (R. Vol. X, p. 4885) used lime from 2% to 5% of the weight of pectinous sugar beet refuse. He does not suggest that the amount of lime added was to be that amount as would neutralize and render alkaline any portion of the waste. It so happens that sugar beet refuse contains no acidic glucosides and oils. The only constitutent common to it and citrus waste are pectins. (T. Respondents' Witness Cocke, Vol. II, p. 535).

None of the prior patents got the quick result obtained by Vincent's methods. In the course of time they obtained a pressible product of sorts which was undesirable and different from that obtained by Vincent. The addition of lime as taught by the prior art brought about a hard, woody or fibrous pressible solid. Vincent's method resulted in a

soft pulpy pressible solid, the very opposite of the lime processes of the prior art. This is convincing proof that Vincent's mode of lime use was (1) different, (2) was solely attributable to his method of lime application and relatively quick reaction periods, (3) which was not a mere natural reaction or result.

In chemistry all reaction when put in motion by man may be said to be natural reactions. If the Court of Appeals is correct in its decision of this case, then no valid patent can be obtained for a process involving a chemical reaction. The great work of our chemists in the medical and industrial fields have been justly rewarded by the grant of patents. If the decision of the Court of Appeals stands none of these patents is valid for in every instance their methods or processes involve natural reactions which could not have occurred except that the inventor discovered a means of setting them in motion.

Claim 7 of the Reissue Patent 865 reads as follows:

> 7. The method of preparing a substantially non-bitter and edible products from citrus waste material which includes the steps of adding to the material controlled varying amounts of a non-toxic alkaline earth metal hydroxide to neutralize the free citric acids of the waste as evidenced by the formation of a brown colored minutes-stable transient gel, breaking the said gel in the presence of an acidic medium provided by the residual acids of the waste to form a light brown watery mother liquor and lighter colored pulpy solids, and separating said solids and mother liquor.

It will be noted that the combination of steps necessary to result in a substantially non-bitter edible product are—

(a) Adding to the waste *"controlled varying amounts"* of non-toxic alkaline earth metal hydroxide (lime).

(b) to neutralize the free citric acids of the waste.

(c) as evidenced by a brown colored minutes stable transient gel.

(d) breaking the said gel in the presence of an acidic medium provided by the residual acids of the waste.

(e) to form a light brown watery mother liquor.

(f) and brighter colored *pulpy solids.*

(g) and separating said solids and mother liquor.

In carrying out these combinations of steps is the intervention of man required? Clearly the addition of lime to citrus was an act of man. To control and vary the amount of lime necessary to neutralize the unknown varying free acids of the waste and secure the desired alkalinity of the liquids of the waste can only be put into motion by acts of man, and is not a natural function. It took man's observation of the change in color and the formation of the gel as the means of determining the critical amount of lime required, to secure the desired alkalinity of the liquids of the waste but of insufficient alkalinity to affect the residual acids in the peel and thereby avoid turning the waste red, malodorous and unfit as a food product.

The meaning of "free citric acids of the waste" in the claims is made clear by the 944 and 865 patent specifications which says that the free acids of the waste or those acids in the free liquids of the natural waste—as contradistinguished from those acids bound up and within the cells of the waste, later referred to as the acidic medium of the claims.

In copying disclosures and claims of the issued 944 patent for interference purposes in the Patent Office, Neal's assignee Lissauer, a chemist and a person skilled in the art, on November 20, 1940, after he had seen and read the issued 944 patent, understood "to neutralize the free citric acids of the waste" to mean the bringing about of "superficial alkalinity of the solution". A solution is a liquid. (See Neal's Application, Amendment "G", Vol. X, p. 5432).

The brown gel produced by Vincent's mode of adding lime does not come about naturally. It only comes about

when that amount of lime added is sufficient to neutralize and bring about the desired alkalinity of the acids in the free liquids of the waste and bring about the change in color and the formation of the claimed differently colored gel. The evidence discloses without dispute that shortly after the critical amount of lime is added just sufficient to neutralize and render alkaline the liquids of the waste to the desired degree, *i.e.*, pH of 9 to 10, the change to brown in color will take place (T. Heid, Vol. IX, pp. 4777-79) and the liquids of the waste will register a pH of 9 to 10 (T. Dr. Roy, Vol. II, pp. 648-49) indicating mid-high alkalinity productive of the increase in viscosity of the liquids, a colloidal sol. None of these reactions will take place if too little lime is added and the state of acidity of the liquids of the waste is not made alkaline. If too much lime is added the too high alkalinity produced will not form a gel, will turn the waste a red color and impart to it an offensive odor making the waste unfit as a food product. (T. Dr. Roy, R. Vol. II, p. 671).

The patentee, Vincent, has never claimed to be the inventor of the alkaline reagents. What is claimed is their use when arranged in the process; that is, "the use of one of the agencies of nature for a practical purpose". *Cameron* v. *Saratoga*, 159 Fed. 453, cert. den. 209 U. S. 548, citing *Locomotive Works* v. *Medart*, 158 U. S. 77 and the *Bell Telephone Case*, 126 U. S. 1.

The Court of Appeals in support of its decision that the patents in suit "do no more than record and claim a mere natural reaction or result" and invalid "because they fail to meet the standards of patentable invention" erroneously relied upon the cases listed in footnote 10 of its opinion. None of these decisions of this and the appellate courts cited is pertinent.

For instance:

The *A. & P. Tea Co.* v. *Super Market Corp. Case*, 340 U. S. 147, 152-3, decided that a mechanical contrivance or gadget made up entirely of rearranged old parts, producing no new result, was unpatentable no matter how useful

it may be. This case however, drew the distinction between a combination of old elements in a mechanical gadget on the one hand, and a combination of steps in a chemical process, on the other. This Court made it clear that its rule of decision was inapplicable to a process involving chemical reactions bringing about an improved result.

In *Funk Bros. Seed Co.* v. *Kalo Inoculant Co.*, 333 U. S. 127, the patent there at issue did nothing more than combine a number of well known inoculants. The combination became useful for treating at will a number of plants one of which was ordinarily activiated only by one of the combined inoculants. Each of the combined inoculants performed in exactly the same manner as when it was segregated and used alone in the treatment of a specific kind of plant. The Court properly held lack of invention because the patentee had discovered no new manufacture or a new means of using a product of nature to secure a new reaction or improved result.

In *Sinclair & Carroll Co.* v. *Interchemical Co.*, 325 U. S. 327, this Court held the Gessler patent for quick drying ink unpatentable. In making his ink Gessler simply took from a catalog and combined certain ingredients whose properties were well known. It was found that any one skilled in the art using these well known ingredients could have produced the Gessler ink.

In the case at bar, Vincent did with lime on citrus waste what no one before him succeeding in doing. He used it in such a manner as to produce such a quick reaction that soft and pulpy pressible solids resulted, while those in the prior art using insufficient lime to produce alkalinity required long reaction periods and thus, in a discontinuous process, got nothing but a hard and fibrous pressible product. Vincent secured a quick reaction readily adaptable to a continuous process by discovering a new means by which he could unfailingly determine the exact and critical amount of lime necessary for a quick reaction thus eliminating long reaction or ageing periods and avoiding the hardening of the pectous substances in the waste. He did not merely add

lime in indiscriminate amounts. He discovered, as the prior art did not, that waste with varying acidities could not be treated successfully with predetermined amounts of lime based on the weight of the waste; that the amount of lime had to be used in such amount as would convert only the unknown acid state of the liquids of the waste to a desired sufficiently alkaline state. These discoveries were invention of the highest order which fully meet the standards adopted by this Court. The Court of Appeals erred in not so finding.

(b) The Vincent Patents in Suit Do Not Disclose and Claim Adding Lime to Obtain a Natural Reaction of Gels of Different Periods of Existence.

In connection with the holding by the Court of Appeals that "the use of controlled and varying amounts of lime is old" in footnote 17, page 19 of its opinion, it was said:

> [17] In addition to being old as revealed by the prior art, we think there was no patentable novelty in Vincent's idea of merely adding "controlled and varying amounts" of lime in order to obtain the natural reaction or results of "gels" of different periods of existence. See *Fiberjoint Corp.* v. *W. R. Meadows,* 112 F. (2d) 322, 324-25; *Finley* v. *MacDougald Const. Co.,* 5th Cir., 28 F. (2d) 674-5.

In so deciding the Court of Appeals erred in that—

In the addition of lime to citrus waste to secure desired alkalinity the control by color and formation of the increased viscosity, the gel does not come into being or result as a natural reaction. Lime so added to the liquids of the waste does not form gels of different periods of existence. With the use of lime the entire process time from the moment the lime is added until the waste is in a pressible state is 5 minutes. The patentee gets his soft and pulpy pressible product within that 5 minutes only because of Vincent's control of the amount of lime and his varying the amount added to the waste to meet the varying unknown acidity of the free liquids of that waste presented for treat-

ment to produce a desired alkalinity thereof. With the use of other stronger or weaker reagents the total process time is 2 minutes for ammonia and from 10 to 15 minutes for calcium carbonates. More or less time may be consumed in the reaction of the type of reagents employed which may be stronger or weaker than lime in bringing about an increase in viscosity of the liquid sol and forming the gel, but the collapse of the gel by the acidic medium is accomplished in each instance in approximately the same time. Any variation in gel collapse time is dependent upon the rate of release and progressive lowering of the alkaline state by the residual acids in the peel particles not primarily affected by the reagent when first applied by Vincent's mode to the waste.

Moreover, the cases cited to support footnote 17 are not pertinent to the Vincent patents when the processes thereof are properly construed.

In the cited *Fiberjoint Corp.* v. *Meadows* case (112 F. (2d) 322) the invention there considered and held to lack invention related to a method of impregnating wood and other porous materials with resins and crude petrolatum dissolved in gasoline, the latter acting as a carrier to convey the petrolatum and resins into the pores of the material to be impregnated. With the evaporation of the gasoline after impregnation the resin and petrolatum remain in the pores of the material impregnated thereby waterproofing it. If one desired a stronger solution of resin and petrolatum less gasoline solvent should be used and a weaker solution would result by the use of more gasoline. In holding that the patent lacked invention the Court said:

> * * * Certainly there was no discovery in suddenly realizing that a solution of a substance and a solvent might be made thicker or thinner by the use of more of the substance or less than the solvent * * * or that the saturation of a porous substance in a perfect solution of elements would distribute that solution evenly throughout the pores. * * * These facts have been known for time immemorial * * *.

The Vincent processes were not the mere addition of any amount of lime within the top and bottom amounts stated in his patents. His processes worked and brought about improved results only because he discovered a means by which the exact and critical amount of lime could be determined as required to change the unknown acidic state of the liquid portion of a waste to just that desired alkalinity as would produce at the end of the quick reaction soft and pulpy pressible solids and avoid the undesirable hard, woody and fibrous pressible solids of the prior art.

In the *Finlay* v. *MacDougald* case (28 F. (2d) 674) cited by the Court the patent there considered did no more than require the use of more asphalt than theretofore used in the construction of the shoulder or outside edge portions of paved roads.

In holding that the patent lacked invention the Court said:

> To add more of an ingredient for the purpose of increasing its ordinary and known effect could never be invention. * * * Where surprising and unexpected results are achieved, as has sometimes happened in the alloying of metals, or the treatment of disease by drugs, it might be otherwise.

The Vincent patents fall squarely within the exceptions mentioned by the Court as above quoted.

Chemists have known for years how to make acid solutions alkaline by the use of alkaline materials. By the old method of titration or the more recent use of a pH meter reading from 0 to 7 the concentration of hydrogen ions and extent of acidity of a solution can be determined and a calculation therefrom can be made to determine what amount of lime or other reagent would produce a state of desired alkalinity in any range from 7 to 14 on pH meter scale. That was not the problem solved by Vincent. He wished to avoid all this predetermination of acidity so that without the necessity of knowing the extent of the varying acidity of the citrus waste presented for treatment to be

able to unerringly add just that exact amount of lime as would produce in a waste having varying unknown acidity a desired state of alkalinity in the free acidic liquids of the waste but insufficient to effect the residual acids in the peel particles and thereby get a 5 minute reaction and avoid the long lime reactions, the undesirable pressible product of the prior art, and a more valuable dry food. That is not the mere addition of more or less lime for the purpose of increasing or decreasing its ordinary and known effect.

Thus the Court of Appeals again seriously erred in imparting to the Vincent inventions a mere natural reaction and result.

7. The Vincent Patents Meet the Standards of Patentability.

The Court of Appeals in following the erroneous and inadequate findings of the trial court fell into error in applying the standards of invention. It erred in not considering the standard of patentability of an invention as dictated by the decisions of this Court and the various Courts of Appeal following it, wherein the rule laid down is that the more fact that an invention has been generally adopted and the product therefrom has been improved over that which has been disclosed before is very weighty evidence that what has been discovered and invented was new, useful and evidence of patentability. *Eibel Case,* 261 U. S. 45, 56, 57; *Minerals Separation* v. *Hyde,* 242 U. S. 261, 270.

The Court of Appeals, without any other evidence to the contrary, disregarded the evidence of Mr. Hughes, (Vol. IV, pp. 1988-2029; 2026-2041) that from his visit to all citrus waste feed mills in Florida and intimate knowledge of the Vincent processes, (R. Vol. IV, pp. 2060-61) all were making use of the Vincent processes by employing his method of adding lime by means of change in color to brown and formation of the brown gel and that the feeds made by the Vincent processes were far superior to those made by the abandoned prior art Neal and Lissauer proc-

esses, the only prior processes actually once used in Florida or California.

The Court of Appeals refused to accept the convincing uncontradicted proofs of record that no sooner did the 944 Vincent patent issue, the Neal process, requiring ageing bins and 2 to 3 hours or longer ageing, and the Lissauer process requiring the indispensible pre-soaking of the waste for 5 minutes in a 190° to 205° steam or water to rid the waste of soluble pectins and in which Neal and Lissauer added an insufficient amount of lime to alter the acidity of the waste or any part of it, were abandoned and the Vincent process adopted in their stead.

These facts material to the decision of the question of patentability were disregarded by the trial courts findings as prepared by respondents' counsel and equally disregarded by the Court of Appeals. Both courts below preferred to accept without any proofs of record the gratuitous statements of respondents' counsel in their brief that the Vincent inventions were no more than dumping lime on citrus waste and was no more than that which had been done for years when lime was thrown in open privies on a farm. That this is absurd see Petitioners' Application for Rehearing with the Court of Appeals, pp. 38-40, rear of R. Vol. X).

The Court of Appeals need not have been solicitious for respondents, for validating the Vincent patents will not impose a monopoly on the citrus cannery waste processors, for all they have to do to avoid infringement of the Vincent patents is to revert to doing just exactly what they were doing prior to the grant of the 944 patent and resume the use of the Neal and Lissauer processes.

If, as respondents claim, the Vincent patents do no more than what has been in the public domain for years,—the simple addition of lime to citrus waste,—then they need only to add such predetermined and constant amount of lime that they may desire and so set and lock their varying lime control devices on their lime feeders so that they can-

not be varied and then age sufficiently the treated waste to secure pressibility. By this prior formerly used process they will not infringe the patents in suit.

8. It Was Error to Hold That Abandonment of Prior Patent Applications Which Did Not Solve the Problem Was Indicative of Inherent Lack of Patentability of the Patent in Suit Which Did Solve the Problem.

The abandonment by a patentee of prior pending applications for patent which do not solve the problem should not have been held as indicative of the unpatentability of an invention in a later application which does solve the problem.

Petitioners find it unnecessary to disagree with the Court of Appeals that the "asserted novelty" of the earlier 1936 (R. Vol. X, p. 5465 *et seq.*) and 1937 (R. Vol. X, p. 5441, *et seq.*) Vincent patent applications were, as the Court of Appeals stated, to "avoiding the formation of any gel" for we can with assurance say that the abandoned 1936 and 1937 Vincent applications contained no disclosures of (1) a method of adding "controlled varying amounts of lime", (2) any use of a change in color and formation of a gel in determining that amount of lime required to neutralize the free acidic liquids of the waste at the commencement of the process, (3) the formation of a gel of any kind much less a brown colored minutes stable transient gel stable for a matter of minutes, not exceeding 15 minutes; (4) the collapse of the gel by any means or (5) the production of soft and pulpy pressible solids. Those disclosures simply were entirely lacking from these earlier applications for patents. (See Decision Patent Office, Vol. X, p. 5042). The Patent Office properly disallowed any claims thereunder. (R. Vol. X, pp. 5457-59; 5474-75). The 1936 application did not even suggest the use of lime. The 1937 application which did mention lime was filed in an attempt to overcome the rejection of submitted claims by the Patent Office over the cited Cole & Hall patent in which in an entirely different and non-analogous process the Cole & Hall patent dis-

closed the use of an enzyme, not an alkaline reagent, for the formation after much delay, heating and standing of a non-transient and permanent gel which did not collapse by chemical reaction but was broken up into small gel particles by a mechanical beating action. The Cole & Hall patent required the use of heat as essential steps of their process. It required tedious ascertainment of the actual overall acidity of each batch of the waste and the addition of lime simply to lower the ascertained acidity, not to neutralize any acidity in the waste and render it alkaline to an optimum or desired degree.

9. Vincent Did Not Apply for Reissue of His 944 Patent to Avoid Neal's Invention, Nor Was the Reissue Based on Additional Disclosures as Erroneously Found by the Court of Appeals.

In a suit brought by Vincent in 1941 for infringement of his 944 patent, (R. Vol. X, p. 5006) a defense filed thereto in April 1946 urged that that patent was invalid as claiming more than disclosed. (R. Vol. X, p. 4995). This caused Vincent to re-examine his 944 patent and on advice of his patent solicitor he applied for reissue. The purpose of the reissue was to narrow the claims and secure to Mr. Vincent his invention as he first intended to claim it.

The specification of his 944 patent disclosed the addition of lime and other alkaline reagents to citrus waste "in varying proportions" but none of the 944 patent claims included the limitation "varying". In describing the method of addition of his specified reagents it was disclosed by the 944 patent that—

> • • • It is necessary to add sufficient reagents • • • *to insure alkalinity of the reaction at the commencement thereof.* Stated briefly, my invention contemplates the treatment of citrus waste in a definite alkaline solution preferably in the presence of a Group II metal compound, so as to foster the formation of a gel which is subsequently broken in an acid reaction medium." (Emphasis supplied). (944 Patent, R. Vol. X, p. 4871, 1st col., lines 68-71).

In the examples of the 944 patent (same page) it was disclosed that these various reagents reacted on the particular grapefruit waste employed within different times in changing color to brown and in forming the gel referred to as an increase in viscosity, and the subsequent collapse or reversion of the gel to a liquid state.

For instance, in Example 1 of the 944 patent it is disclosed that when *lime* was used with such grapefruit waste in sufficient amount to bring about a brown color, and the increase in viscosity (the formation of the gel) the entire processing resulting in spongy pressible solids, was completed in about 5 minutes.

In Example 2 employing the same grapefruit waste as in Example 1 using calcium carbonates (limestone, oyster-shell flour or chalk) the reaction was the same but was completed in from about 10 to 15 minutes.

In Example 3, employing the same grapefruit as in Examples 1 and 2, using calcium carbonate and ammonia in an amount necessary to change the color of the liquids to brown, the reaction took place in two minutes.

To describe these short reaction times of from 2 to 15 minutes, for the forming and collapsing of the gel, the patentee in his 944 patent claims chose the phraseology "transient gel" to indicate that the gel was not a permanent gel but one made and broken in a short reaction period of time measured in minutes, *i.e.*, 2 to 15 minutes.

To provoke an interference between the Neal pending application for patent and the Vincent issued 944 patent, Dr. Wayne M. Neal's assignees on November 20, 1940, following the issue of the Vincent 944 patent, filed Amendment "G" to the Neal pending application in which said assignees adopted certain disclosures of the Vincent 944 patent and copied verbatim six of the Vincent issued patent claims. Following the declaration of interference an *inter partes* proceeding was had in which the patentee Vincent was vis-a-vis the applicants Neal and Finley, the Board of Interference Examiners of the Patent Office on Oc-

tober 31, 1944, following argument and briefs, decided *inter alia* that Vincent's patent disclosed and claimed the formation of a gel "of short duration" with "a reaction time measured in minutes" while the Neal application disclosed a required reaction time of from "2 to 3 hours preferably overnight". As to Neal's contention that his process formed a gel inherently, the Patent Office found and decided (1) that inherency could not be claimed in the face of lack of disclosure of the formation of a gel of any kind in the Neal application and (2) even if a gel was inherently formed, due to Neal's long required 2 to 3 hours for reaction to secure a pressible product his alleged claimed inherent gel could not be the "transient gel" of the claims of the Vincent 944 patent. (See Decision of the Patent Office, R. Vol. X, pp. 5009, 5018, 5021, 5026).

With this factual bakground it is more readily understood why Vincent applied for a reissue of his 944 patent when its claims were attacked in the District Court in 1946 as broader than the disclosure. If the terminology "transient gel" of the claims of 944 is construed alone, without resort to the specification disclosures, "transient gel" of the claims might conceivably be interpreted to include a reaction period 2 to 3 hours, the reaction period of Neal. On the other hand, if the specification disclosures of the Vincent 944 patent are resorted to, the "transient gel" of the claims must be interpreted, as did the Patent Office in its decision, as a gel "of short duration" with "a time reaction measured in minutes". Accordingly, the terminology "minutes stable transient gel" allowed by the Patent Office in the claims of the reissue, was merely more accurately descriptive of a gel of short duration with a reaction time measured in minutes, and this new terminology did not change the 944 invention or make it broader than its disclosure, but if anything it narrowed it.

The Court of Appeals following the erroneous, inadequate and improperly adopted findings of the trial Court erred in deciding (pp. 16 and 17 of Original Opinion) that Vincent secured issuance of his 865 reissue patent "mainly

on the basis of the *additional* descriptive phrase "minutes stable" as qualifying the duration of his Original 944 "transient gel" and the *introduction* and emphasis upon the use of the word "varying" to define the controlled amounts of lime used as a reagent.

Vincent did not by his reissue broaden the disclosed invention of his 944 patent by *"additional"* or *"qualifying"* descriptive matter in his reissue, nor did he *"introduce"* any new or changed method in the reissue by the use of the word "varying" as stated by the Court of Appeals.

"Varying" omitted from the claims of 944 is found in the specification of 944 (Vol. X, p. 4871, left column, lines 68-71). Therefore, its employment in the reissue claims was a limitation and no new matter. The use of "minutes stable transient gel" in the reissue claims as more accurately descriptive of the "transient gel" of 944, was suggested to Vincent by the decision of the Patent Office by its Board of Interference Examiners wherein they found that "transient gel" of the 944 issued patent, meant a gel of "short duration" with "a time reaction measured in minutes". The reaction periods of 944 using ammonia as the reagent was two minutes, with lime 5 minutes and calcium carbonates 10 to 15. Thus with any of Vincent's specified reagent the longest reaction time was not more than 15 minutes. Thus "minutes stable transient gel" was merely more accurately descriptive of the life or stability of the disclosed gel formed by the increase of viscosity produced by Vincent's method of adding weaker or stronger alkaline reagents to citrus waste to secure a desired state of alkalinity of the liquids of the waste having normal unknown varying acidities.

Under the reissue statute (35 U. S. C. Sec. 64), as interpreted by the Courts, a patentee is entitled to a reissue to avoid ambiguities in the claims and eliminate the necessity of resorting to the specification for an interpretation thereof, so long as the new terminology of his claims is responsive to the disclosures of the original patent specification and do not broaden them. Such narrowed reissues

are encouraged and can be applied for at any time during the life of the patent. (See Walker on Patents, Deller's Edition, Sec. 320, p. 1364, and cited cases).

All of the defenses urged in this litigation to the reissue were raised by the Examiner in considering the application for Reissue and disposed of favorably to the applicant prior to grant of the Reissue. In granting the reissue the Patent Office must have found that the failure to claim in the first instance "controlled varying amounts" of lime and "minutes stable transient gel" arose by inadvertence, accident or mistake without fraudulent or deceptive intention; that the changed suggested phraseology of the claims was warranted by the disclosures of the 944 patent and narrowed the claims of the reissue. The grant of the reissue was a question primarily for the Patent Office. *Van Kannel* v. *Winton Hotel*, 276 Fed. 234, 238. It was validly granted and the Court of Appeals erred in not so deciding.

10. In Following the Trial Court's Illegally Adopted Findings That Neal's Alleged Prior Use of Calcium Oxide Resulted in a "15-30 Minutes Stable Gel", Was Erroneous.

At p. 10 of its opinion as amplified in footnote 6, the Court of Appeals, contrary to the evidence, followed the trial court's illegally adopted and erroneous findings to the effect that the Patent Office overlooked or disregarded Neal's testimony given in 1943 after the grant of the Vincent 944 patent in the Interference Proceeding. From this testimony (See Clerk's Supplemental Certificate at Rear of Vol. X, Printed in the Appendix Hereto) in which he only claimed orally in 1943 that in his pre-application test in July and early August 1935, not placed in his patent application filed later in August, 1935, or in his Amendment "G" filed November 20, 1940, the trial court and the Court of Appeals found that "Neal had obtained a 15-30 'minutes stable gel' thereby anticipating the reaction time and allegedly distinguishable 'transient gel' of the Vincent 944 patent."

As more particularly pointed out in petitioners' petition for rehearing at Section VI, pp. 35-40, and as shown by the reproduced testimony of Neal in the Appendix, Neal did not testify that at any time in any tests or reductions to practice prior to Vincent he formed "a minutes stable gel". If he had so stated in 1943 in his testimony in the interference proceeding such statement coming long after the 944 Vincent patent had issued would have been totally incredible in view of Neal's failure to disclose such quicker reaction in his patent application filed after making the claimed test and because of the further fact that his pre-application test reports in evidence show reaction times all not less than 4 hours or more,—even when he used calcium oxide. (See Respondents' Witness, Neal, Testimony, Vol. IX, pp. 4647-4676).

11. The Patents in Suit Are Not Indefinite as Held by the Court of Appeals.

In its opinion, p. 20, the Court of Appeals said:

> Further, most of this unnecessarily voluminous testimony, prior art, and exhibits, on both the questions of validity and infringement of the patents in suit, can be reduced to the statement that nearly all of the hotly contested issues as to the nature and rigidity of the "gel" formed, its color, duration, and the time of reaction, depend generally on such other variable factors as the kind and amount of lime or other alkaline reagent used, the character and amount of the citrus waste treated, whether means of mechanical agitation are employed, etc. Under such circumstances, appellants are confronted with the same practical difficulty in sustaining and enforcing the patent monopoly they claim as was experienced by the patentee in *Fruit Treating Corp.* v. *Food Machinery Corp., supra*,[14] wherein this Court invalidated somewhat similar claims as too broad, and as failing to set forth a sufficiently definite standard as to the precise nature of the process. • • •

[14] 112 F. (2d) 119, 121.

The Court of Appeals erred in comparing the patents in suit with the patent in the *Fruit Treating Corp.* case.

The Vincent patents in suit meet every requirement of the patent laws. They give detailed examples of what occurs in the use of controlled varying amounts of lime, calcium carbonates, ammonia and other alkaline reagents. In every instance when the reagent is added as directed the change in color and the differently colored gel is produced. The "hotly contested issues" arose when respondents challenged the dictionary definition of a "gel"—the increase in viscosity of a colloidal sol; they denied that in their process they formed a gel, yet not a single witness for respondents ever looked for the "gel" as defined in the dictionary but contented themselves with merely saying they saw no solid jelly such as is jello or jellies obtainable at the grocery store.

The specification of the patent in the *Fruit Treating Case* unlike the specifications in the Vincent patents in suit, contained no examples but merely specified that the invention consisted of a mixture of any dye capable of going into solution or being carried by the solvent. The proportions of the ingredients varied in ratios of from one to fifty percentum by weight of dye, and the evidence and the patent specification in that case showed that no one could use the invention without first ascertaining by repeated experiments the exact proportions of the different ingredients required to bring about the desired results. The claims of the patent were so broad and all inclusive that any process for dyeing oranges that might be desired would necessarily infringe.

This is not the case with the Vincent patents in suit. Any one unskilled in the art using any one of the alkaline reagents enumerated in the examples could succeed in practicing the Vincent inventions without any experimentation. All he had to do, as the patents teach, is start to add the lime or limestone or oystershell flour or chalk or ammonia and gradually increase the amount until he pro-

duced a brown color in the liquids of the waste and the liquids of the waste increased in viscosity and formed the syrupy gel and then stop the addition of lime or other reagent of the patent he had chosen to use. The reaction would then take place within the number of minutes applicable to the patent reagent specified and used.

Thus it will be clearly seen that the Court of Appeals disregarded the detailed explanation of the inventions and unjustly imparted to them an indefiniteness which is totally refuted by the specifications.

Not a single expert for respondents testified that the patents were indefinite or that experimentation would be required in the use of their processes.

CONCLUSION.

For the reasons stated hereinabove as amplified by what petitioners set forth in their petition for rehearing, a Writ of Certiorari should be granted herein to review and correct the clear and substantial errors of the Court of Appeals.

Respectfully submitted,

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Washington, D. C.,
January 12, 1955.

APPENDIX A

Opinion of the Court—Filed August 5, 1954

IN THE

UNITED STATES COURT OF APPEALS

FOR THE FIFTH CIRCUIT

No. 14250

DANIEL BOSCAWEN VINCENT and FOOD PROCESSES, INC., *Appellants,*

versus

SUNI-CITRUS PRODUCTS COMPANY, *Appellee.*

FOOD PROCESSES, INC., *Appellant,*

versus

MINUTE MAID CORPORATION, *Appellee.*

DAN B. VINCENT, INC., *Appellant,*

versus

MINUTE MAID CORPORATION, *Appellee.*

Appeals from the United States District Court for the Southern District of Florida.

(August 5, 1954.)

Before HUTCHESON, Chief Judge, RIVES, Circuit Judge, and RICE, District Judge.

HUTCHESON, Chief Judge: Another aspect or phase of the long drawn out struggle in Florida to free its large and growing citrus waste processing industry from

the adverse effects of patent monopoly control,[1] these are appeals, upon a consolidated record, from decrees of the district court entered in three separate patent suits, consolidated for trial below, which declared invalid and not infringed two process patents. These are Reissue Patent No. 22,865, to be referred to as "865", issued April 8, 1947, on the basis of the Original Vincent Patent No. 2,215,944, issued September 4, 1940, to be referred to as "944", and Patent No. 2,471,363, issued May 24, 1949, as an improvement on Patent No. 944, to be referred to as "363."

Appellants, challenging the correctness of the decrees and the consolidated findings of fact and conclusions of law, upon which they are predicated, as erroneous in fact and in law, are here seeking the overthrow of the findings and conclusions and the reversal of the decrees.

Daniel B. Vincent, the individual patentee of the original patent 944, as well as of the two patents in suit, the appellant primarily concerned in this three pronged litigation, has been for many years interested both theoretically and practically in the citrus waste processing in Florida and engaged in the sale of citrus waste processing machinery therein.

Food Processes, Inc. and Dan B. Vincent, Inc., Florida corporations owned and controlled by Vincent, were used by him primarily to take title respectively to reissue patent 865 and improvement patent 363, and license the use thereof.

Both appellees are Florida corporations extensively engaged in that state in the dehydration of citrus fruit and in the manufacture of stock food from the waste citrus hulls, pulp and seed remaining after the juice has been squeezed from the fruit.

Unless otherwise indicated, both the individual and corporate Vincent interests will occasionally be hereinafter

[1] Cf. Suni-Citrus Products Co. v. Vincent, 72 Fed. Supp. 741, Reversed 170 F(2) 850.

referred to generally as appellants, while the Suni-Citrus Products Company and the Minute Maid Corporation will be designated generally as appellees.

Though separately applied for and issued, the two patents in suit are closely related in basic method and in purpose and result accomplished, and present on all basic issues common questions of law and fact. Broadly described they relate generally to a method or process employed in conversion of citrus cannery waste into a dry, non-bitter, and water absorbent cattle feed.[2] As contended by appellants, both patents disclose and claim a "continuous process" whereby lime is added to citrus waste in "controlled and varying" amounts so as to foster the formation of a brown colored "transient" or "minutes-

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[2] Appellants' brief, page 51, describes the substance of the invention in the Vincent 944 and 865 as follows:

"The crux of the invention of the Original Vincent Patent 944 and as disclosed in the Reissued Vincent Patent 865 was the discovery that the critical and required varying amounts of reagents to adequately treat citrus waste having unknown varying acidities could be determined by observation of (1) a color change in the waste, and (2) an observable increase in viscosity of the free liquids of the waste forming a brownish colored gel; (3) thereafter by means of an acidic medium breaking the gel causing the citrus cannery waste in a changed state to become pressable within less than 15 minutes; (4) thus making the process continuous and eliminating any standing or ageing steps; and (5) resulting in a more desirable water absorbing and substantially non-bitter cattle feed".

Again, in arguing (brief p. 469) that Minute Maid infringes, they thus state their contention as to the essentials of patent No. 944 and its reissue No. 865:

"Therefore, if the original liming by the manual varying of the settings of the lime machine is kept within the ranges of 0.3% to 0.4½% as used by Minute Maid, it follows that in the beginning of the process the alkalinity of the waste liquids does attain a pH of 9.5 to 10, thereby fostering the formation of the different colored gel. *Later in the course of the process the residual acids in the peel particles are released and ultimately reduce the alkalinity to such lower alkaline ranges that the gel breaks and releases the liquids held by the gel resulting in a changed product comprising pressable pulpy solids and press waters. This comprises essentially the invention of the patent in suit.*" (emphasis supplied)

stable transient'' gel, and the subsequent breaking down of that gel in such manner as to facilitate the removal of the bound water and bitter constituents of the waste and render it mechanically pressable. After pressing, the bulky dried product is bagged and extensively marketed commercially as a valuable and nutritious cattle feed.

The Vincent reissue patent 865, dated April 8, 1947, is based upon Vincent's surrender of cancelled original patent 944, and is the foundation for two of the consolidated suits, namely *Suni-Citrus Products Company* v. *Daniel B. Vincent, et al.*, and *Food Processes, Inc.* v. *Minute Maid Corporation.* The former case was originally filed on April 8, 1947, the date of issuance of the Vincent reissue patent, as an independent declaratory judgment action to have the Vincent 865 reissue patent declared invalid and not infringed. The latter case was originally brought by the Vincent interests against Minute Maid Corporation on specific claims of the reissue patent alleged to have been infringed, but by Minute Maid's complaint and counter claim the validity and infringement of all its claims was put in issue.

The third case of *Dan B. Vincent, Inc.* v. *Minute Maid Corporation* is based on Vincent patent 363, granted May 24, 1949, for an improvement in the Vincent process, and involves the issues of infringement and validity of the claims of that patent.

Issues applicable generally to all phases of this litigation are invalidity of both the 865 and 363 patents in suit as anticipated by prior patents, uses, publications, etc.; invalidity for lack of utility and patentable novelty over the prior art; and lack of infringement by either of appellees' accused processes, because of the omission of certain steps of the Vincent processes.

Other specific defenses urged in the particular cases are: estoppel against the Vincent claim of infringement against Suni-Citrus because of Suni-Citrus' prior acquisition of intervening rights as to the 865 patent, upon which

that suit is based; estoppel against Vincent in both suits against Minute Maid based on the 865 and 363 patents, because of Vincent's having previously profited from the sale of processing machinery used in the Minute Maid plant; alleged misuse of the Vincent patents in suit under a so-called "tie-in" arrangement, allegedly devised to force the sale of unpatented machinery in violation of the anti-trust laws; and unclean hands and bad faith of Vincent, in making alleged conflicting oaths and false representations before the Patent Office and the District Court, in order to secure and uphold the validity of his patents, which conduct by the patentee is repeatedly urged by appellees as an appropriate basis for denying him all equitable relief.

Upon the issues thus tendered by the parties, particularly on the defenses of prior use, of estoppel, and of misuse by Vincent of his patents, a greatly voluminous record was made, consisting of some 10,000 pages of oral and deposition testimony. Of this testimony, that of only eight out of the total of sixty-seven witnesses was taken in open court. The rest, having to do largely with the particular defenses above referred to, was taken by deposition.

The trial concluded, the matters at issue were taken under advisement and later decided by the district judge without opinion.

Adopting and filing as his own elaborate and detailed finding of fact and conclusions of law,[3] prepared and

[3] These were in substance: that both patents and all claims thereof were anticipated by the prior art patents and publications cited and uses relied on, and they were therefore, invalid in fact and in law for want of patentable novelty; that they were further invalid in fact and in law for failing to meet the standard for patentable invention set by the applicable patent statutes, 35 U.S.C.A., Secs., 31, 33, and the cases; that the 865 reissue patent was invalid for the further reason that it was granted contrary to and in abuse of the statutory reissue privilege (35 U.S.C.A. 64) in that it was void for laches in its application, and that it was an unlawful reissuance for a broader, and different, invention than

submitted for his adoption by appellees, he found both patents and all claims thereof invalid and uninfringed, and gave judgment accordingly.

Here, with inordinately long and repetitious briefs and with an approach calculated to engender more heat than light, counsel for appellants and appellees respectively vie with each other in impugning and imputing motives and making charges and counter-charges which, instead of clarifying, tend only to obscure the controlling issues in

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that disclosed by Vincent's original 944 patent, rather than a lawful reissuance for a narrower patent corrected for errors due to inadvertence, accident, or mistake; that, with regard to Minute Maid Corporation, Vincent was equitably prevented, because of Minute Maid's implied license to use the accused processes, from making a double profit from the sale and installation of the processing machinery in that plant, adaptable for use only in the accused process and then reaping further benefits either by license royalties, or this suit for infringement; that, as for appellee, Suni-Citrus, the record shows that it was using the same process it had adopted in 1936, long before the advent of either Vincent patent in suit, except for immaterial improvements in machinery designed to increase efficiency and plant capacity, which fact conferred upon Suni-Citrus intervening rights to the use of its accused process, particularly in view of Vincent's prior dismissal, with prejudice, of a previously filed infringement suit against Suni-Citrus based on substantially the same process; that the Vincent interests were further equitably barred from relief because of Vincent's misuse of his patents in violation of the antitrust laws, in that he attempted unlawfully to force the sale of machinery on which he received commissions by threatening processors with infringement suits; that irrespective of the validity of the patents, neither of appellees' accused processes constituted infringement thereof, since neither Suni-Citrus nor Minute Maid use the "transient gel" or "minutes-stable transient gel" of the Vincent patents, or Vincent's "color control method" for controlling the addition of lime to the waste, but that appellees actually prevent the formation of a "gel" in their processes by means of mechanical agitation, and control the amount of lime essential to be added by the feel of the waste and by observing the temperatures of the dryer and the condition of the dried product as it comes from the presses; and finally, that Vincent's unclean hands and inequitable conduct in swearing falsely both before the Patent Office and the district court, and his adoption of inconsistent and conflicting positions in order to secure and sustain the monopoly of his patents, barred him and his corporate interests from all relief.

the case and render their correct determination more, rather than less, difficult.

On their part, counsel for appellants point to the district court's sweeping acceptance and adoption of the contentions of counsel for appellees with respect not only to the defenses of invalidity and non-infringement but also to the numerous other defenses of estoppel, intervening rights, implied license, misuse of patents and false oaths of the patentee. So pointing, they vigorously urge that upon this record, showing that most of the testimony was taken by deposition out of the presence of the court, the findings of the district judge are deprived of the weight normally accorded to findings and that we should determine the issues presented for ourselves substantially as if no findings had been made,[4] or at least should treat them as advisory merely.

In their 624 page consolidated brief, subdivided into eight different sections,[5] appellants urge upon us generally that the findings and conclusions of the district judge are clearly erroneous, indeed are without support in the record.

As to the first case, *Suni-Citrus* v. *Vincent*, appellants insist that the prior patents, uses, and publications relied upon by the district judge as anticipating patent 944, and the reissue patent are all clearly distinguished and they do not either singly or in the aggregate disclose the precise

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[4] Cf. Stewart-Warner Corp. v. Lone Star Gas Co., 195 F(2) 645; Southern States Equip. Corp. v. U.S.C.O. Power Equip. Corp., 209 F(2) 111, 117 footnote 7.

[5] Section 1 of the brief deals with the nature of the consolidated suits, the pleadings and issues presented by them, the suggested scope of this review; Sections 2, 3, and 4 deal respectively with the findings and issues in the three consolidated suits; Section 5 discusses the court's findings and appellees' contentions as to appellants' alleged misuse of the patents; while Sections 6, 7 and 8 deal respectively with the trial court's alleged improvident award of attorneys' fees to counsel for appellees, appellants' request in the event of remand for hearing before a different judge, and alleged errors of law by the court in the light of recent authorities cited by appellants.

novelty and invention involved in the reissue patent in suit; that the testimony shows, indeed the Suni-Citrus expert witnesses practically admit that in the method used by it Suni-Citrus does form the same type gel disclosed by the reissue patent claims and does break the gel by use of the Vincent control methods in substantially the same way to effect substantially the same result, and the court, therefore, erred in finding non-infringement of patent claims; that Suni-Citrus failed to show that the reissue patent was an enlargement or extension of the original patent or that it was for any other reason illegally or improperly issued; that it also failed to show that Suni-Citrus has acquired any intervening rights to use the process of the reissue patent either because of Vincent's dismissal of his prior infringement suit against Suni-Citrus or for any other reason, and the court, therefore, erred in finding and holding that Suni-Citrus acquired any rights against the reissue patent; that the defense that Vincent has misused his patents is without support in the record, and the court erred in finding that there was misuse; and that the findings that Suni-Citrus did not infringe the patent claims are clearly erroneous.

As to the second case of *Food Processes, Inc.* v. *Minute Maid Corporation*, involving the same 865 reissue patent, appellants insist that the court erred for substantially the same reasons assigned in the first case, in finding and holding: that the 865 patent was invalid both for want of invention and because unlawfully reissued, and, if valid, was not being infringed; and that appellants had forfeited their rights to the statutory monopoly of their patents through their misuse contrary to the anti-trust laws.

Further pointing out that the same claims as to the validity of the reissue patent now raised by appellees in both the first and second consolidated cases, particularly as to the precise nature and stability of Vincent's so-called "transient gel", were also urged by appellees without

success before the Patent Office,[6] appellants insist that the district court's rejection of the Patent Office decision sustaining in principle the validity and granting of the 865 process patent not only does violence to that considered judgment but is also in the teeth of the presumption of validity which attends the grant of a patent.

Further attacking as neither pleaded nor adequately provided, Minute Maid's argument that it has acquired an implied license to the use of the 865 reissue process merely by virtue of its purchase of certain machinery from another processor, Ploeger-Abbott, which had formerly been used by that Company to practice the Vincent process, appellants urge that, in interposing this defense, it is not they but appellees who are assuming inconsistent and untenable positions.

Finally, as to the third and last case of *Dan B. Vincent, Inc.* v. *Minute Maid Corporation,* involving the 363 im-

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[6] Appellants refer particularly to the Patent Office interference proceeding of Finley v. Vincent v. Neal, in which the Board of Examiners held that the "transient gel" feature of Vincent's 944 patent embodied patentable novelty over the prior Wayne Neal application, since Vincent disclosed a "minutes stable gel", rather than the "hours stable gel" construed by the Examiners as a limiting feature of the Neal process. However, as appellees contend and the district court found, his distinction ignored testimony in the Neal record showing that, with the use of the very active reagent of calcium oxide, instead of lime, Neal had obtained a 15-30 "minutes-stable gel", thereby anticipating the reaction time and allegedly distinguishable "transient gel" of the Vincent 944 process. In any event, the record shows that the Patent Office itself assumed conflicting positions as to the distinctive nature of Vincent's gel, the Board of Appeals of that agency having held:

"We find the situation to be that applicant and Vincent disclose the same object and we believe principle and particular steps in preparation of such product. Vincent treats disintegrated material with 0.5 to 5.0 of lime. Applicant treats with a quantity of lime which is said to be 0.3% of the weight of disintegrated material. Both parties state that after a certain time the mass which is at first gelatinous and unfilterable coagulates to a condition in which the water easily drains away or may be expressed by pressure. The action therefore is regarded as inherently the same in both cases."

provement patent, appellants take practically the same fundamental position as to the validity of that patent, its infringement by Minute Maid, and the defenses of alleged misuse of patents and implied license urged in both prior suits. They also urge: that the attempt of appellees and the district court to minimize the novelty of the 363 process by misnaming it a "mechanical" or "machinery patent" will not do; that the record establishes independent validity for the 363 patent; that in spite of the admitted fact that some of its elements are old,[7] it nevertheless discloses invention; that this was recognized by Minute Maid's chief engineer Penn,[8] as well as by the citrus processing industry generally; and that even if the court holds the 865 reissue patent invalid, the 363 improvement process is still independently valid over the prior art as claiming in a

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[7] As to this 363 patent, appellants make the following concession in brief:

"Some of the steps of the claim 1 are old. The use of lime as the reagent was old, the shredding of the treated waste was nothing new; the use of color changes in the waste and the formation of a gel broken usually in less than 10 minutes as the guide for the proper and critical amount of lime to be added to the varying acidities of the waste was old, although those steps were discovered by Vincent and first disclosed by him in his 944 patent. The pressing and drying of the treated waste was old. The use of the slow movement or blending action of the delay conveyor to leach out the residual acids in the peel was Vincent's conception but old in view of his 944 patent."

See Jeoffroy Mfg. Co. Inc. v. Graham, 5th Cir., 206 F(2) 779.

[8] The written report made in 1947 by Minute Maid's Chief Mechanical Engineer, after his inspection of the machinery and process of the 363 patent employed in the Vincent equipped Bilgore plant, stated, in part, as follows:

"The only really novel feature of this layout was the dryer * * * All inlets and exits in the dryer were furnished with seals * * * in such a manner that the exhaust fan working on the expansion chamber was able to maintain a slight vacuum of about 1½" of water.

"There was no evidence of scorching of the feed and there was a production of a minimum amount of fines. The feed * * * was of a superior quality to any other in the State. It did have a lighter colored appearance and a definitely lighter bulk density than the average citrus feed I have seen."

patentable combination a distinctive method of treating and drying the waste, whose use effects a more rapid production of a better, because a more bulky and waste absorbent, feed in a more efficient, more economical, way.

Answering each of these contentions in their turn as equally unsupported in law and in fact, appellees begin their presentation with the insistence that appellants err fundamentally and egregiously in attacking and attempting to discredit the findings and conclusions because, though they were filed by the judge as his own, they were prepared by counsel for appellees. They point out that counsel for appellants, as they had a right to do, in their brief submitted to the court below, presented to the court for its adoption proposed findings and conclusions drawn in their favor. So pointing and citing the settled law, that it is entirely appropriate, indeed desirable, especially in a case presenting many issues and a mass of evidence, that counsel so assist the court, counsel for appellees correctly ask if appellants could and did prepare findings and conclusions for the court's adoption why could not the appellees do so. They as correctly assert that the fact that they did in no manner impeaches the court's findings or deprives them of the weight accorded them by law.

Proceeding then to a discussion of the findings and conclusions, appellees urge upon us that taken separately and as a whole they are not only not clearly erroneous but are indeed the only findings and conclusions which the record would fairly support, and that this is particularly so as to the basic findings of invalidity and non infringement.

With respect to the findings of invalidity for want of novelty and invention, of both the patents in suit, they point to the great mass of evidence made up of prior art patents[9] and publications, beginning at least as far back as 1884, and to the testimony as to prior use, as clearly justi-

[9] Among the prior art patents relied upon are Maercker (German) No. 29640; Cole & Hall 1,991,242; Cocke 2,126,947; Lissauer 2,187,501; Lissauer & Credo 2,362,014; Neal 2,548,510.

fying, in fact compelling the rejection of both patents as invalid for lack of novelty and invention. Insisting that the process claims of the Vincent patents represent merely attempts to present as patentable what is nothing more than the addition of lime in varying quantities to citrus waste or the wholly untenable theory that the use of the human senses of sight, taste, smell, and feel for the purpose of determining and controlling the quantities to be used, together with the observation and notation of the attending and resulting natural phenomena is patentable, with the result of giving them a sweeping monopoly upon the use of such senses in the citrus waste industry, they urge upon us that this is a fundamental violation of the patent statutes and the controlling authorities.

Upon this point that the reissue patent 865 is invalid as matter of law and of fact, they insist that the reissue is not for the same invention but, as the whole of the argument and contention in this case shows, it was resorted to supply what Vincent evidently regarded as a fatal omission from his 944 patent, a claim to a "minutes-stable gel". They insist too that the defense of laches is established as matter of fact and law and that the record fully supports the court's finding with respect to Suni-Citrus' intervening rights.

Upon the issue of non infringement, they point to the testimony which they claim establishes as matter of law, but if not as matter of fact, that if the reissue patent is valid, it is of such narrow scope as to fully support the finding that neither Suni-Citrus nor Minute Maid infringed any of its claims.

As to improvement patent 363, which, basing on abandoned patent 944, claims as new the use of the dual liming feature of recycling portions of the lime waste used in the initial process and the use of certain drying steps, they urge upon us that the record shows that neither of these supposed additions are novel, neither show invention.

Upon the additional defenses of unclean hands, equitable estoppel, implied license, and misuse of the Vincent patents in an illegal attempt to monopolize unpatented machinery, appellees, with equal positiveness and vigor, press upon us that the findings and conclusions of the district judge with respect to them find full support in the record.

For the reasons and upon the authorities hereinafter briefly set forth, we find ourselves in agreement with the findings and conclusions of the district court that the patents in suit are invalid, both because they are anticipated by the prior art and because they fail to meet the standard of patentable invention.[10] Because this is so and because in a situation of this kind where an entire industry is affected by and concerned with the question of the validity vel non of patents, it is the better practice for the court to inquire fully into their validity, while we find ourselves generally in accord with appellees' contention that none of the findings and conclusions of the district judge may be set aside as clearly erroneous, we will pretermit discussion of any of them except the findings and conclusions that the patents in suit are invalid for want of novelty and invention, and, addressing ourselves to those, will deal first with the basic patent 944, its reissue 865, and improvement patent 363, to the extent that its provisions are the same as those in 944.

After abandoning two prior patent applications filed in January, 1936, and April, 1937, in which his asserted novelty was avoiding the formation of any gel, Vincent

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[10] Great A & P Tea Co. v. Super Market Corp., 340 U. S. 147, 152-3; Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U. S. 127, 131-132; Sinclair Co. v. Interchemical Corp., 325 U. S. 327, 330, 334; American Fruit Growers v. Brogdex Co., 283 U. S. 1, 11-13; Fruit Treating Corp. v. Food Machinery Corp., 112 F(2) 119, 121; United Advertising Corp. of Texas v. Stimson, 89 F(2) 450, 453; Carbide & Carbon Chemical Corp., 21 F(2) 199, affirmed 31 F(2) 32; A. O. Smith Corp. v. Affiliated Gas Equip. Inc., 205 F(2) 654; Allied Wheel Products v. Rude, 206 F(2) 752.

applied for his original 944 patent on January 12, 1939,[11] claiming as advantageous the formation of a "transient gel". Subsequently, in order to draw what he claimed was the real distinction between his 944 "transient gel" and the gel of the prior Wayne Neal application, and because of his stated apprehension that 944 might be attacked as anticipated by Neal,[12] he secured issuance of his 865 reissue patent mainly on the basis of the additional descriptive phrase "minutes-stable" as qualifying the duration of his original 944 "transient gel"[13] and the introduction and emphasis upon the use of the word "varying" to define the controlled amounts of lime used as reagent. Immediately upon securing the reissue, he dismissed his long pending

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[11] For purposes of anticipation, Vincent claims that the process disclosed by his original 944 patent was actually invented on Jan. 16, 1937, but the Examiners of the Patent Office found in the interference proceeding that, for insufficient evidence of his reduction to practice, Vincent was confined to his Jan. 12, 1939, filing date, and we sustain the district judge's finding and conclusion that in fact and in law Vincent is so bound.

[12] In the oath accompanying his application for the 865 reissue patent, Vincent stated:

"Within the past thirty days there has been an exchange of dates for my invention and dates to be relied upon by the defendant Suni-Citrus in said suits as to alleged prior uses, wherein it appears that the defendant therein relies principally upon the experimental reduction to practice by said Wayne M. Neal at Louisville, Kentucky, on Sept. 9, 1935, which was fully considered by the Board of Interference Examiners and distinguished from the claims of my patent when so restricted as above stated.

"I am advised by my patent counsel that the above mentioned *pleadings provide a possible basis for attack upon the validity of my patent because the original specification or description failed to define the transient gel as one that was stable for a matter of minutes, and do not define the controlled amounts of reagent as varying, to more particularly distinguish from the Neal application.* * * *" (emphasis supplied)

[13] Appellants urge repeatedly in brief that the 865 reissue patent was necessitated by the Patent Office decision restricting the novelty of Vincent's 944 "transient gel" patent to a "minutes-stable gel", as distinguished from Neal's prior "hours-stable gel" but as heretofore noted in footnote 6, supra, this distinction was invalid in view of the Neal record.

suit for infringement of his 944 patent against Suni-Citrus and cancelled the patent, asserting that the claims of 865 and 944 were the same.[14]

Whatever might be said, on the issues of good faith, clean hands and downright fraud, of Vincent's constantly shifting positions and arguments as to the basic novelty of his processes, together with his practically admitted abandonment or cancellation of three out of five of his patent applications since the year 1936, we think it must be held that these are acts which in themselves are strongly indicative of the inherent unpatentability of process patents which do no more than record and claim a mere natural reaction or result. See *Funk Bros. Seed Co.* v. *Kalo Co.*, note 10, *supra*, at pp. 130-131;[15] *Carbide & Carbon* v. *Texas Co.*, 21 Fed(2) at 204-5;[16] *Fruit Treating Corp.* v.

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[14] Appellants state in brief that: "The claims as drawn and allowed in the reissue patent with the limitations as to the 'varying' of controlled amounts of reagents to be added to the citrus waste and characterizing the original 'transient gel' as a 'minutes-stable transient gel' and a 'minutes-stable transient, syrupy gel', are all encompassed within the original specification discloses, and are in consonance with the claims of the original patent as they were interpreted by the Board of Interference Examiners."

[15] While this case dealt with product claims, the discussion by the Supreme Court of the principle that the use of well known chemicals on natural products, such as the addition of lime to citrus waste, as here, cannot constitute invention, is in point and greatly illuminating. See also American Fruit Growers v. Brogdex Co., 283 U. S. 1.

[16] "They say that Thompson merely formularized in attractive terms and clothed in popular phraseology certain facts thoroughly known to all chemists, and that to the chemical and physical phenomena which are well known to all scientific men and most practical men in the gas industry he gave a sales set-up, and with the aid of plaintiff's sales and mechanical force produced an attractive sales proposition; that, if there can be invention in so stating chemical formulas and mechanical problems as to popularize their use, here is invention, but that the Patent Office grants no patent for that.

"They say that, if there can be invention in demonstrating by experimentation, what every chemist already knows, that the volatility of a mass of hydrocarbons is increased greatly by the presence in that mass of some very volatile constituents, and that the

Food Machinery Corp., and *United Advertising Corp. of Texas* v. *Stimson*, note 10, *supra.*

While appellants frankly admit that they may not justly claim for Vincent the favored status of a pioneer in the citrus waste processing art, they do point to alleged deficiencies in the knowledge of Vincent's predecessors, as evidenced by the claimed omission in each of the prior patents, uses, publications and articles disclosed by the prior art of the critical steps in his patents on which Vincent relies for their validity over the prior art. So pointing, they argue essentially that Vincent combined both old and new steps to effect a new and better result; that he was the first to make available to the citrus waste processing industry an efficient and commercially feasible "continuous process" teaching the application of "controlled and varying amounts" of lime, depending on the different acidities of the waste to be treated, the addition of lime being controlled by observing the color of the waste and the action of the "gel" formed.

The use, however, of a "continuous process" is old. It is shown in the Cole & Hall, the Cocke and Lissauer patents; and the use of "controlled and varying amounts" of lime is old, as also revealed by Cole and Hall, Lissauer, and Neal.[17]

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volatility of the whole can be greatly decreased out of proportion to the mass excluded, by excluding the most volatile constituent, then he has invented; but that this is not invention. They say it is immaterial to the gasoline industry what the constituents of natural gasoline are named, or whether there is included in it by name butane, propane, or hexane; that it is of the highest importance to produce gasoline of a certain volatility and vapor tension, and as much gasoline as can be produced within the limits of admitted volatility; and that when the industry, in the course of its evolution, has reached the point where rectification became desirable, it ought not to be permitted to any one to exclude others from the field merely by first using an obvious or well-known device." 21 Fed. (2) at 204-5.

[17] In addition to being old as revealed by the prior art, we think there was no patentable novelty in Vincent's idea of merely adding "controlled and varying amounts" of lime in order to obtain the natural reaction or result of "gels" of different periods of existence. See Fiberjoint Corp. v. W. R. Meadows, 112 F(2) 322, 324-25; Finley v. MacDougald Const. Co., 5th Cir., 28 F(2) 674-5.

Finally, Vincent's claimed novel method of controlling the addition of lime, through use of the human senses of sight, feel, smell and taste of the treated waste, is not original with him, but has been practiced extensively practically ever since men began to use lime.[18]

What was said by this court in *A. O. Smith Corp.* v. *Affiliated Gas Equipment, Inc.*, 205 F(2) at 657, is peculiarly applicable here:

> "We think that it is just here that the fallacy of plaintiff's claim lies. It is in endeavoring to infuse patent life into an inert combination of elements, each of which was old and well known. All that is made to appear here is the well known result of the operation of factors well known to those in the art and well described in printed publications, * * * ".

Further, most of this unnecessarily voluminous testimony, prior art, and exhibits, on both the questions of validity and infringement of the patents in suit, can be reduced to the statement that nearly all of the hotly contested issues as to the nature and rigidity of the "gel" formed, its color, duration, and the time of reaction, depend generally on such other variable factors as the kind and amount of lime or other alkaline reagent used, the character and amount of the citrus waste treated, whether means

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[18] That Vincent's method of controlling the addition of lime by use of human senses was not new with him is substantially revealed by the following prior patents:

Color: Cocke 2,126,947, p. 3, l.c., line 17; Lissauer 2,187,501, p. 3, l.c., lines 54-56. Cole & Hall 1,991,242, p. 3, l.c., lines 54-55; p. 3, r.c., lines 71-75.

Touch or Feel: Maercker 29,640; Cole & Hall, 1,991,242, p. 3, r.c., lines 71-75; p. 4, l.c., lines 1-5; Neal 2,548,510, col. 3, lines 39-44 (hand test); col. 6, lines 20-21; Lissauer 2,187,501, p. 2, r.c., lines 42-45.

Smell: Cole & Hall 1,991,242, p. 3, l.c., lines 68-69; p. 3, r.c., lines 70-75; p. 4, l.c., lines 1-2; Cocke 2,126,947, p. 3, l.c., lines 17; Lissauer 2,187,501, p. 3, l.c., line 55.

Taste: Neal 2,548,510, col. 6, lines 60-74; Cole & Hall, 1,991,242, p. 3, l.c., lines 67-68; p. 5, l.c., lines 7-10; Cocke 2,126,947, p. 2, r.c., lines 28-32.

of mechanical agitation are employed, etc. Under such circumstances, appellants are confronted with the same practical difficulty in sustaining and enforcing the patent monopoly they claim as was experienced by the patentee in *Fruit Treating Corp.* v. *Food Machinery Corp., supra,* wherein this Court invalidated somewhat similar claims as too broad, and as failing to set forth a sufficiently definite standard as to the precise nature of the process. The rule enunciated in that case is applicable and controlling here:

> "When a patent is claimed for discovery, the law requires the patentee to state its component parts with clearness and precision, and to give a practical statement of its ingredients. When this burden is not met, or is met only vaguely and ambiguously, and it is apparent on the face of the specifications that no one could use the invention without first ascertaining by experiment the exact proportions of the different ingredients required to produce the result desired, it is the duty of the court to declare the patent void. In this case, the temperature variations, the shade or concentration of color desired, and the wide choice of ingredients, with their different powers and qualities, require a formula changing according to conditions. It is hardly conceivable that anyone, however skilled in the art, could obtain satisfactory results when dyeing oranges by the process patented without repeated experiments. Moreover, if from the nature and character of the ingredients to be used, they are not susceptible of such exact description, the inventor is not entitled to a patent. Wood v. Underhill, 5 How. 1, 12 L.Ed. 23.
>
> "The patentee * * * has failed sufficiently to particularize a definite formula or process, complete with ingredients and the proportions of their mixture, which is essential to a valid patent. Since each of the three claims in question depends for its validity upon the sufficiency of the disclosures of the patent, the defect mentioned is the spoilation of all, and the bill of complaint should have been dismissed." 112 F(2) 119 at p. 121. Cf. Halliburton Oil Well Cementing Co., 130 F(2) 589, at p. 591, et seq.

This court, in *Robinson* v. *DeGaetano,* 212 F(2) at page 3, recently stated:

> "* * * though the Patent Office may occasionally be confused by varying terminology so that it is induced to issue patents which are invalid as lacking in invention, it is our duty to observe realities and recognize that, whether this component member be called a 'shield' or a 'flashing', the descriptive term used does not basically change its function and purpose, or bestow upon it any inventive novelty."

When viewed against the background of the well developed prior art and the standard for invention set by statute and decisions, the same is true here whether the basic reaction of the process patents in suit be called a "transient gel", as in the 944 and 363 patents, or a "minutes-stable transient gel", as in 865.

The object and purpose of the patent statutes is to promote really novel advances in the art, rather than those attributable merely to a person having ordinary skill in the trade. The judgment in this case was entered before the enactment of Sec. 103 of the Patent Act of 1952, 35 U.S.C. 103, and this section, therefore, is not specifically applicable[19] in the decision of this case. Nevertheless, since the section purports and has been construed[20] to merely embody existing law, the quotations noted below[21] from "The Effect of Section 103 of the Patent Act of 1952

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[19] Texas Miller Hat Corp. v. Switzer Bros., (5th Cir.) 201 F(2) 824; General Motors v. Estate, 203 F(2) 917.

[20] Carlson & Sullivan v. Bigelow, 202 F(2) 654; Stanley Works v. Rockwell, 203 F(2) 846.

[21] "The standard of invention required to obtain a valid patent under our patent laws has long been one of the most contentious phases of patent law. This phase of patent law is of prime importance. Thus, in patent litigation where the cause of action is based on the patent monopoly the courts first pass on the validity of the patent. In enacting 35 U.S.C. 103, the Congress, for the first time, has spoken with regard to this phase of the law as follows:

> 'A patent may not be obtained though the invention is not identically disclosed or described as set forth in Sec. 102 of

Upon the Patent Laws", Journal of the Patent Office Society, Vol. 35, No. 4, with which we find ourselves in general agreement, find application here.

In view of what has gone before with respect to the prevailing standard for invention, little more need be said with respect to appellants' separate contentions as to improvement patent 363, that its claims to use of a new process (1) for adding dry lime to the waste and (2) for

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this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.'

The standard of patentability set forth is negative, i.e., non-obvious subject matter. Furthermore, the subject matter must be non-obvious (a) at the time the invention was made to (b) a person having ordinary skill in the art. Although the two sentences that comprise Section 103 of the Patent Act are treated separately, in reality, they form a single integrated expression of the law by first setting forth an objective legal standard of patentability and then limiting the Court's discretion in utilizing criteria for making its finding of facts to those other than the manner in which the invention was made.

This standard of patentability is not new. It is essentially a codification of the law as it has been enunciated by the Courts for more than 100 years. * * *"

"Courts have generally held that the question as to whether an invention is a patentable invention is a matter of fact, whereas the rule or standard to be applied in determining 'patentable invention' is a matter of law. Various criteria have been used by the courts to determine what is a 'patentable invention'. During the past half century and especially during the past two decades the courts have been raising the standard of originality necessary for a patent. Unfortunately, it is difficult, if not impossible, to determine from the decisions whether the courts have been applying a more severe and exacting legal standard of patentability or whether they have merely been more exacting in their determination of what would have been obvious to one having ordinary skill in the art. * * *"

"The Patent Act of 1952, Sec. 103 should have a salutary effect upon the existing confused state of the law. * * *"

"The legislative intent in enacting this section of the Act appears to have been to codify the law for its stabilizing effect and to make

drying the material, evidence invention. It is sufficient to say that, if we should assume that either of these processes is new in the sense of not having been tried before, we should be obliged to hold that they present nothing novel since what they purport to do would have been perfectly obvious, at the time the invention was made, to a person having ordinary skill in the art of liming and drying citrus waste. Though, therefore, that process may be as useful and efficient as other liming and drying methods are, or even more so, nevertheless, it is perfectly plain that they claim nothing which so advances the art as to justify monopoly protection. *Altoona Publix Theatres, Inc.* v. *Am. Tri-Ergon Corp.*, 294 U.S. 477, at page 486.

The judgment was right. It is AFFIRMED.

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for more uniformity and definiteness in decisions as well as to minimize great departures in the law such as the *research* cases and the effect given to the dicta in the *Cuno* case. By legislating as to the subject matter of patentability and at the same time not seeing fit to legislate a criteria or test for the determination of what would be obvious to one having ordinary skill in the art, the many prior holdings pertinent to this point of law probably will be held to have been impliedly written into the new statute.

"The new statute places in statutory form what has, according to the better view, been held by the courts to be the legal standard of invention required to obtain a valid patent. This codification of the law should be conducive to greater uniformity and definiteness in lower court decisions and general affirmation of lower court holdings in cases where the lower court applies the legal standard of patentability." pp. 233, 234, 235, 236 & 238.

APPENDIX B

Judgment.

Extract from the Minutes of August 5, 1954.

No. 14250

DANIEL BOSCAWEN VINCENT and FOOD PROCESS, INC.,

versus

SUNI-CITRUS PRODUCTS COMPANY,

FOOD PROCESSES, INC.,

versus

MINUTE MAID CORPORATION,

DAN B. VINCENT, INC.,

versus

MINUTE MAID CORPORATION.

This cause came on to be heard on the transcript of the record from the United States District Court for the Southern District of Florida, and was argued by counsel;

On consideration whereof, It is now here ordered and adjudged by this Court that the judgment of the said District Court in this cause be, and the same is hereby, affirmed;

It is further ordered and adjudged that the appellants, Daniel Boscawen Vincent and Food Processes, Inc., Food Processes, Inc., and Dan B. Vincent, Inc., and the surety on the appeal bonds herein, The Travelers Indemnity Company, be condemned, in solido, to pay the costs of this cause in this Court, for which execution may be issued out of the said District Court.

APPENDIX C

IN THE

UNITED STATES COURT OF APPEALS

FIFTH CIRCUIT

Consolidated Cases
No. 14,250

DANIEL BOSCAWEN VINCENT, et al.

v.

SUNI-CITRUS PRODUCTS COMPANY,

FOOD PROCESSES, INC.,

v.

MINUTE MAID CORPORATION,

DAN B. VINCENT, INC.,

v.

MINUTE MAID CORPORATION.

Certificate

I, John A. Feehan, Jr., Clerk of the United States Court of Appeals for the Fifth Circuit, do hereby certify that at the time that the appeal record in the above numbered and titled case was filed in the office of the Clerk of this Court, two (2) original Exhibits forming part thereof, namely,

Suni-Citrus and Minute Maid Exhibits 54 and 57, being both sealed envelopes which from inscriptions on the outside of said envelopes were inscribed "Depositions of Axel Oas, Herman G. Miller, Harry Montgomery, Carl Montgomery and Roy T. Campbell".

Following the filing of the record of appeal, Prentice E. Edrington, counsel for appellants, applied to Hon. Wayne Borah, Judge of this Court, for an order segregating said above referred to Exhibits 54 and 57 from the record and ordering that the same not be opened without further orders of the Court. Upon presentation of this motion the Court did not sign the Order but orally instructed the Clerk to place the said exhibits in the Clerk's safe for their intact preservation and that the same were not to be opened unless ordered by the Court.

In the course of the designation of those portions of the record to be printed, application was made to the Clerk for these Exhibits by Toulmin & Toulmin, attorneys for appellees, to which request counsel for appellees were advised that said documents could not be delivered or opened without an order of the Court.

Thereupon, counsel for appellees filed with the Court a motion requesting permission of the Court for the opening of said sealed envelopes, following which the Court entered the following order:

"ORDER:—

"ON CONSIDERATION of the motion filed by appellees that the two sealed envelopes containing the depositions of Carl Montgomery, Herman G. Miller, Harry Montgomery, Roy T. Campbell and Axel Oas, which depositions bear appellees' exhibits Nos. 54 and 57, with the original designations E-19 and E-22, be opened and that counsel for the parties be permitted to inspect and mark these depositions with a view to indicating those portions which the parties desire printed;

"IT IS ORDERED that the Clerk of this Court be, and he is hereby authorized to open the two sealed envelopes de-

scribed above so that counsel in this case may have access to the depositions contained therein.

(Signed) J. C. HUTCHESON, JR.
Chief Judge."

Nov. 7, 1952.

which was filed in this Court on November 7, 1952.

In testimony whereof, I hereunto subscribe my name and affix the seal of the said United States Court of Appeals at my office in the City of New Orleans, Louisiana, in the Fifth Circuit this 15th day of December, 1954.

JOHN A. FEEHAN, JR.
Clerk, United States Court of Appeals for the Fifth Circuit.

(SEAL)

APPENDIX D

IN THE UNITED STATES COURT OF APPEALS
FIFTH CIRCUIT

Consolidated—No. 14,250

DANIEL BOSCAWEN VINCENT, et al., *Appellants,*

v.

SUNI-CITRUS PRODUCTS COMPANY, *Appellee.*

FOOD PROCESSES, INC., *Appellant,*

v.

MINUTE MAID CORPORATION, *Appellee.*

DAN B. VINCENT, INC., *Appellant,*

v.

MINUTE MAID CORPORATION, *Appellee.*

Extract of Deposition of Wayne M. Neal, Taken From Suni-Citrus and Minute Maid Exhibit 38

PAGE 105

IN THE UNITED STATES PATENT OFFICE

Before the Examiners of Interferences

Interference No. 79,789

FINLEY

v.

VINCENT

v.

NEAL

Deposition of witnesses examined on behalf of the party Neal pursuant to the annexed notice, at the office of Mr. Arthur F. Robert, 803 Kentucky Home Life Building, Louisville, Ky., commencing at 9 A. M., C. W. T., on Thursday, January 7, 1943.

Present:

Mr. Arthur F. Robert for the plaintiff Neal.

Mr. Charles F. Miller, Jr., for the party Vincent.

• • • •

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Dr. Wayne M. Neal, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Arthur F. Robert, counsel for Neal, as follows, to wit:

Question 1. Will you please state your name, present occupation, and address?

Answer. Wayne M. Neal; my present occupation is chief chemist for Security Mills, Inc.; Knoxville, Tenn.

• • • •

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• • • •

Q. 724. When was it prepared?

A. It was prepared shortly before June 16, 1941—no, this was recorded before the 1st of April of this year while I was still connected with the Florida Experiment Station. I can't establish the exact date of its preparation right now.

Mr. Robert: I re-offer Neal Exhibit 64.

Mr. Miller: It is objected to as not the best evidence.

Mr. Robert: That is all.

PAGE 205

Cross-examination by Mr. Miller, counsel for Vincent.

• • • •

PAGE 232

• • • •

XQ. 1185. You have also referred several times to the ageing step of your process. What do you mean by that?

A. That is the time that elapses between the incorporation of the calcium compound into the waste and when sufficient reaction has occured to convert the mass into a pressible condition.

XQ. 1186. What time do you find is usually required?

A. I wouldn't say there is any specific time because the time is dependent on conditions of fineness of grinding of

the waste, the dispersion of the calcium compound, the thoroughness of mixing, and the temperature.

XQ. 1187. What is the minimum amount of time you have experienced in your work?

A. With the calcium oxid and hand mixing?

XQ. 1188. Yes?

A. There have been times from 15 to 30 minutes.

XQ. 1189. And is a shorter or longer time experienced with calcium hydroxid?

A. A longer time with calcium hydroxid.

XQ. 1190. Why is that?

A. That is because calcium hydroxid is a less reactive material than calcium oxid, and in a case of calcium oxid, due to this reactivity when it combines with water you have it more finely dispersed than calcium hydroxid that has been previously prepared and added as a powder or suspension.

XQ. 1191. In a case of calcium carbonate, as I understand, your early computations were to add the calcium carbonate in amounts of about .4% to the amount of the waste?

A. Yes.

XQ. 1192. And in the case of calcium hydroxid .3%?

A. Yes.

XQ. 1193. So that in the case of calcium hydroxid you would use a lesser amount for a longer time?

A. In a case of calcium hydroxid you would be using an equivalent amount of calcium and for a shorter time than with calcium carbonate.

XQ. 1194. Oh, I misunderstood your previous testimony. In giving the time for the ageing period, did you give the time for calcium oxid or calcium carbonate?

A. Calcium carbonate. Pardon me—which time? The time of 15 to 30 minutes was for calcium oxid.

XQ. 1195. How about calcium carbonate?
A. It would be more than two hours, ordinarily.

* * * *

CERTIFICATE

I hereby certify that the above and foregoing is a true and correct extract of depositions given by Dr. Wayne M. Neal in Interference Proceeding No. 79,789 before the United States Patent Office on Thursday, January 7, 1943, as shown by printed copy of record for Wayne M. Neal, a part of the record of the above entitled case on appeal and identified as Suni-Citrus and Minute Maid Exhibit 38.

JOHN A. FEHAN, JR.
Clerk of the Court, United States Court of Appeals, Fifth Circuit.

(SEAL)

By CLARA R. JAMES
Chief Deputy Clerk

New Orleans, Louisiana
November 18, 1954.

FEB 5 1955
HAROLD B. WILLEY, Clerk

In the Supreme Court of the United States

OCTOBER TERM, 1954.

No. 541

DANIEL BOSCAWEN VINCENT AND FOOD PROCESSES, INC.,
Petitioners,

vs.

SUNI-CITRUS PRODUCTS COMPANY,
Respondent.

FOOD PROCESSES, INC.,
Petitioner,

vs.

MINUTE MAID CORPORATION,
Respondent.

DAN B. VINCENT, INC.,
Petitioner,

vs.

MINUTE MAID CORPORATION,
Respondent.

RESPONDENTS' BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

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APPENDIX (Printed under separate cover):

A. Letter dated June 10, 1952 from counsel for petitioners ---------- 1a

B. Letter dated February 27, 1952 from counsel for petitioners and DEFENDANTS' SUGGESTED FINDINGS OF FACT AND CONCLUSIONS OF LAW (District Court Docket Nos. 1364-T, 1887-T and 1888-T) ----------2a-105a

C. Letter from Clerk of U. S. Court of Appeals, 5th Circuit, dated November 4, 1954, denying Petition for Rehearing of Petitioners------- 107a

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Goodyear Co. v. Ray-O-Vac Co., 321 U. S. 275 ------- 4

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In the Supreme Court of the United States

OCTOBER TERM, 1954.

No. 541

DANIEL BOSCAWEN VINCENT AND FOOD PROCESSES, INC.,
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FOOD PROCESSES, INC.,
Petitioner,

vs.

MINUTE MAID CORPORATION,
Respondent.

DAN B. VINCENT, INC.,
Petitioner,

vs.

MINUTE MAID CORPORATION,
Respondent.

RESPONDENTS' BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

The following reasons are submitted as grounds, with supporting authorities and brief argument, for denial of the Petition for Writ of Certiorari.

COMPLETE CONCURRENCE OF DISTRICT COURT AND COURT OF APPEALS.

The Findings of Fact and Conclusions of Law in the District Court were affirmed by the Court of Appeals without change. There was complete concurrence on the factual matters and legal issues by the two Courts. In addition, the Court of Appeals gave extended consideration

to the Petitioners' Petition, and elaborate brief, for Rehearing. Respondents did not submit a brief on rehearing. The petition was denied. (See Appendix C.)

We understand the rule[1] to be that such Findings of Fact and Conclusions of Law stand "unless clearly erroneous."

The Petitioners do not point out specifically where there is clear error. **They merely disagree with the result** and substitute accusations against the Courts and opposing counsel for specific errors.

> "* * * A court of law, such as this Court is, rather than a court for correction of errors and fact finding, cannot undertake to review concurrent findings of fact by two courts below in the absence of a very obvious and exceptional showing of error. * * *"
>
> *Graver Manufacturing Co. v. Linde Co.*, 336 U. S. 271, 275, and cases cited; the foregoing decision was adhered to on rehearing—339 U. S. 605.

The petitioners in the case below submitted their proposed Findings of Fact and Conclusions of Law to the District Court with their brief **before** oral argument which Findings and Conclusions were rejected by the Court after due consideration.[2] By agreement of counsel in preparing

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[1] F. R. C. P. 52(a) reads as follows: "**Effect.** In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon and direct the entry of the appropriate judgment; * * * Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses * * *."

[2] (See pages 10, etc., this brief, for a tabulation of the dates showing the extended consideration which the District Court gave to this case by reading the briefs of the parties together with the proposed Findings of Fact and Conclusions of Law of petitioners before argument and the extended period for consideration by the Court after the two days of argument.)

the record for the Court of Appeals it was agreed to omit the suggested Findings of Fact and Conclusions of Law submitted by petitioners with their first brief filed on February 27, 1952 with the District Court. These documents are reproduced in Appendix B.

After reviewing the briefs of both parties and the proposed Findings and Conclusions of petitioners and with ample time for reviewing the record where there were any disputes over the facts, the Court instructed respondents' counsel to prepare Findings, Conclusions and a Decree. After various revisions by the District Court over a period of days the District Judge was finally satisfied and signed the papers of which petitioners' counsel were immediately advised and served with copies.

PETITIONERS' FAILURE TO MOVE UNDER F. R. C. P. 52(b).

Petitioners **made no motion under Rule 52(b)**[1] of the Federal Rules of Civil Procedure to reform the Findings of Fact and Conclusions of Law but elected to take an appeal.

AN ATTEMPT TO RETRY THE CASE.

This is an attempt here to retry the case on factual issues concerning validity and infringement in the absence of any appellate conflict. The Courts below concurred on the facts and law. *Universal Oil Company v. Globe Oil*

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[1] F. R. C. P. 52(b) reads: **"Amendment.** Upon motion of a party made not later than 10 days after entry of judgment the court may amend its findings or make additional findings and may amend the judgment accordingly. The motion may be made with a motion for a new trial pursuant to Rule 59. When findings of fact are made in actions tried by the court without a jury, the question of the sufficiency of the evidence to support the findings may thereafter be raised whether or not the party raising the question has made in the district court an objection to such findings or has made a motion to amend them or a motion for judgment."

Company, 322 U. S. 471; *Goodyear Company v. Ray-O-Vac Company,* 321 U. S. 275; *Williams Manufacturing Co. v. United Shoe Machinery Corp.,* 316 U. S. 364, 367.

The jurisdiction of this Court is sought to give the defeated petitioners another hearing—that is all this Petition amounts to. As Mr. Chief Justice Taft said in *Magnum Company v. Coty,* 262 U. S. 159, 163:

> "* * * The jurisdiction [of the Supreme Court to review cases by way of certiorari] was not conferred upon this Court merely to give the defeated party in the Circuit Court of Appeals another hearing. * * *"

COURTS BELOW FOLLOWED THIS COURT'S DECISIONS.

The decisions of this Court have been followed by the Courts below in this case, particularly the decisions in *Carbide & Carbon Chemicals Corp. v. Texas Co.,* 31 F. (2d) 32 (C. A. 5); *Funk v. Kalo,* 333 U. S. 127; and *American Fruit Growers v. Brogdex Co.,* 283 U. S. 1. **Both Courts below concurred that there is lack of invention** under the patent statutes of the patents in suit, dealing with natural products and their treatment with well-known materials.

There is no conflict of Circuit.

There is no public question involved—the segment of the industry involved in this litigation is minor compared to the total size of the citrus industry.

There are no novel questions of law.

There is no inventive subject matter. It was so held. The claimed invention is to put lime on waste citrus fruit, which is full of water and will readily spoil, in order to cause the water to run out to dry the fruit. The resultant mass can then be pressed to squeeze out the small amount of remaining water and it is dried for use as stock food to avoid the spoilage problem—in short, old fruit, old lime

treatment and old result. (Opinion, C. A. 5, 8/5/54, Petitioners' Appendix to Petition, pp. 13, 15, etc.)

The publications, prior uses and patents proved in this case show this practice is old since the first publication in Germany in 1884—the Courts below have so held. It is an old practice familiar to anyone who ever lived on a farm of putting lime into an outdoor privy to cause the water to run out of the offal, dry the material, and eliminate its spoilage and odor. (Opinion, C. A. 5, 8/5/54, Petitioners' Appendix to Petition, p. 17, etc.)

NO INVENTION AND NO ISSUE UNDER NEW PATENT LAW.

There is no subject matter here that has ever been recognized as patentable subject matter by this Court or any other Court for it is merely an attempt to treat with an old material, such as lime, a product of nature such as the waste hulls of the fruit. *Before* you can have an issue of what is the correct scope of the statute **you must have inventive subject matter** that justifies consideration by a Court under any statute.

It is, therefore, immaterial whether the instant case comes under the old Patent Laws or the new Patent Codification Act of 1952; nor does it make any difference what is the interpretation of the Patent Codification Act of 1952.

THE PETITIONERS AVOID THE BASIC QUESTION.

Petitioners do not have subject matter that is patentable under any Patent Law enacted now or ever enacted in the United States. The treatment of a natural product with another natural product for a well-known purpose certainly should be well within the skill and knowledge of the ordinary man and when it has been known to the

ordinary man the result is obvious that you cannot use this excuse to monopolize the products of nature.

NO CONSTITUTIONAL QUESTION.

The petitioners fail to state a constitutional question. None was raised below and we do not deem the argument of petitioners is of sufficient importance to raise any now.

NO FEDERAL QUESTION.

There is no federal question involved here not heretofore decided by this Court, nor is there any decision in this case in conflict with any decision of this Court. To the contrary, both Courts below, concurring on the law, base their decisions squarely upon the decisions of this Court.

AMPLE CONSIDERATION GIVEN TO PETITIONERS BELOW.

Petitioners were not denied the use of any testimony that they introduced into this case. **The major portion of the proof was so voluminous, as taken by petitioners, that depositions were approved by the Court as it was impossible to give such time to one litigant. There were no restraints by the Court on petitioners in building an enormous record.**

The petitioners have had three considerations given to their position, consideration after many months of review of their briefs, their proposed Findings and Conclusions of Law and their numerous arguments, with further consideration after argument by the District Court. This case has been considered three times by the Courts of the Fifth Circuit.

There should be some end to litigation.

Those Courts are experienced Courts having *similar questions involving patents in the citrus industry* before them in the past as the great citrus States of Florida and Texas come within the scope of the Fifth Circuit. Their present decision is in harmony with the decisions of this Court as well as their previous decisions.

PETITIONERS' INCORRECT STATEMENT OF FACTS AS TO FINDINGS AND CONCLUSIONS.

Petitioners omit essential facts in their statement accusing the Courts and opposing counsel.

Petitioners do not tell you that briefs were filed in the District Court many weeks before the Court gave two days to the hearing of arguments. Petitioners submitted with their brief their Findings of Fact and Conclusions of Law. (See Appendix B.) The Court had ample time in advance of the argument to study the case.

Petitioners do not tell you that they submitted their own Findings of Fact and Conclusions of Law for the Court's consideration weeks before the argument.

The Court took many weeks after the argument to consider the elaborate briefs of both parties, the record and the proposed Findings of Fact and Conclusions of Law of petitioners.

The District Court made up its mind after months of consideration extending from the date of February 27, 1952, when the briefs were submitted and petitioners' proposed Findings of Fact and Conclusions of Law were submitted, until the Court entered its Decree on May 28, 1952, some three months after briefs and petitioners' proposed Findings of Fact and Conclusions of Law were submitted.

Counsel for respondents received a verbal order from the Court directing them to prepare and submit for the

Court's consideration, in view of this enormous record of nearly fourteen thousand typewritten pages and hundreds of exhibits, the detailed Findings of Fact and Conclusions of Law. The Courts have held it is a duty of counsel to obey their orders and assist the Court as members of its bar, particularly in a case with such a voluminous record. *Simons v. Davidson Brick Co.*, 106 F. (2d) 518 (C. A. 9, Wilbur, J.); *O'Leary v. Liggett*, 150 F. (2d) 656, 659 (C. A. 6, Martin, J.); *Dearborn National Casualty Co. v. Consumers Petroleum Co.*, 164 F. (2d) 332, 333 (C. A. 7; Minton, J.).

There were several submissions, extending over several weeks, of various drafts of the Findings and Conclusions to the Court before the Court was satisfied.

WHEN COUNSEL PREPARE FINDINGS OF FACT AND CONCLUSIONS OF LAW UNDER THE ORDER OF THE COURT AND AFTER REVISION THE COURT SIGNS THEM, THIS IS THE ACT OF THE COURT.

The following are typical cases which recognize the practical situation in preparing Findings of Fact and Conclusions of Law in heavy cases as the basis for review and revision by the District Court. Counsel for the successful party, as officers of the Court, are properly required to assist in this scrivener's work which is reviewed, revised and ultimately signed by the District Court. **The safeguard is Rule 52(b)[1] of the Federal Rules of Civil Procedure of which these petitioners did not take advantage** in the District Court because they knew perfectly well that they could not point out any errors in these Findings and Conclusions, however much they disagreed with the result and the interpretation of the Findings and Conclusions.

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[1] See footnote p. 3, this brief.

In *Dearborn National Casualty Co. v. Consumers Petroleum Co.*, 164 F. (2d) 332, 333 (C. A. 7), Mr. Justice Minton when Circuit Judge, stated the rule and the obligation of successful counsel as follows:

> "* * * While the burden and responsibility to make findings of fact and state conclusions of law thereon are primarily upon the trial court, certainly counsel for the parties, **especially the prevailing party, have an obligation to a busy court to assist it in the performance of its duty in this regard.**" (Emphasis ours.)

See also *Simons v. Davidson Brick Co.*, 106 F. (2d) 518 (C. A. 9; Wilbur, J.); and *O'Leary v. Liggett*, 150 F. (2d) 656, 659 (C. A. 6; Martin, J.).

PETITIONERS' CASES.

On page 7 of the Petition two cases are cited by petitioners which support the respondents. In *Matton, etc. v. The Dynamic*, 123 F. (2d) 999, 1001 (C. A. 2), the Court said:

> "Of course, **we do not mean to imply that a trial court is not privileged to seek such aid of counsel, both as to the facts and the law, as it thinks desirable prior to and as a step in decision**; or to limit or restrict in any way the procedure for amending or otherwise correcting findings set forth in F. R. C. P. 52(b). Nor do we wish to preclude the trial court from preparing an opinion, for that can be most illuminating and helpful to an appellate court." (Emphasis ours.)

In *U. S. v. Forness*, 125 F. (2d) 928, 943 (C. A. 2), the Court said:

> "* * * And it is not a light responsibility since, **unless his findings are 'clearly erroneous,' no upper court may disturb them.** * * * For that very reason

every effort should be made to render it as adequate as it humanly can be." (Emphasis ours.)

To this end the District Judge took briefs with the proposed Findings and Conclusions of Petitioners so he could study them some weeks before the argument. He heard the case which he set for argument on two days, giving ample time to both sides, asked questions and then he took further time to digest the arguments and review the case further. He then sought the aid of counsel to prepare a draft of Findings and Conclusions, of which there were several, until he was satisfied that the final draft represented his views. Counsel for the respondents acted as law clerks as an arm of the Court to aid the Court in his labors as they were bound in duty to do. *Simons v. Davidson Brick Co.*, 106 F. (2d) 518 (C. A. 9); *O'Leary v. Liggett*, 150 F. (2d) 656, 659 (C. A. 6); *Dearborn National Casualty Co. v. Consumers Petroleum Co.*, 164 F. (2d) 332, 333 (C. A. 7).

THE CHARGES OF COUNSEL FOR PETITIONERS AGAINST THE COURTS BELOW AND RESPONDENTS' COUNSEL REQUIRE A DETAILED STATEMENT OF THE FACTS.

The following is a detailed statement of the facts which completely rebuts the many unpleasant claims and inaccurate statements in petitioners' brief from pages 2 to 8. We regret to burden the Court with this but see no other way to answer these unusual charges.

(1) On February 27, 1952 petitioners' counsel reported to us that they had filed with Judge Whitehurst, District Judge, their brief with proposed Findings of Fact and Conclusions of Law. (See Appendix B.)

(2) On March 3, 1952 respondents' brief was filed in the District Court.

(3) The Court set the matter for argument on March 21 and 22, 1952 and argument was had.

(4) On May 12, 1952 the District Judge advised respondents' local counsel, Mr. Allen in Tampa, Florida, that he had decided the case in favor of respondents and wished us to submit Findings of Fact, Conclusions of Law and a Decree in favor of respondents.

(5) The first draft was submitted to Judge Whitehurst May 16, 1952 and the last draft was signed by the Court on May 28, 1952. There were several drafts before the Court was satisfied with what he wanted.

(6) Respondents' counsel served on petitioners' counsel a copy of the Findings of Fact, Conclusions of Law and a copy of the Final Judgment on June 2, 1952.

(7) Petitioners' counsel acknowledged receipt on June 4, 1952 and served on respondents' counsel, Mr. Allen in Tampa, Florida, a copy of a motion for a new trial and then withdrew it by a letter of June 10, 1952. (See Appendix A.)

(8) On June 9, 1952 petitioners' counsel served his Notice of Appeal to the Court of Appeals.

The Court will, therefore, see that counsel for the petitioners made no timely objections to the Findings of Fact and Conclusions of Law which they had a right to do under F. R. C. P. 52(b)[1].

The Court will also observe that petitioners' brief is in error where it indicates (pages 5 and 6 of the Petition) that they had no opportunity to call attention to errors in the Judge's Findings and Conclusions.

(9) To the contrary, Mr. Edrington, counsel for petitioners, was served immediately by letter dated May 29,

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[1] See footnote p. 3, this brief.

1952 from Mr. Allen, local counsel for respondents in Tampa, Florida (and Mr. Edrington acknowledged receipt of the copy of the Findings and Conclusions under date of June 4, 1952 saying he had received them on June 2, 1952), upon signing by the Judge of the Findings of Fact and Conclusions of Law with a copy and he had full opportunity under F. R. C. P. 52(b)[1] to take action provided by the Rule if he was not satisfied with the correctness of the Judge's action.

This he did not do.

He elected to accept these Findings of Fact and Conclusions of Law and to appeal from them after having served a motion for new trial but which he abandoned on June 10, 1952 (Appendix A).

This Court will see, therefore, that the accusations of petitioners' counsel against the Trial Court and inferentially against counsel for respondents from pages 3 to 8 in their Petition, have no foundation.

If petitioners' counsel had any complaint, it should be directed to themselves for not having taken advantage of the Federal Rules of Civil Procedure which they are presumed to know.

We further direct the Court's attention to the fact that petitioners' counsel had had their day in Court by filing their proposed Findings of Fact and Conclusions of Law with their brief on February 27, 1952. Respondents filed their brief on the same day with the Court, *without Findings and Conclusions* as we deem it presumptuous to assume a litigant will win.

The Court had petitioners' brief and petitioners' proposed Findings and Conclusions (see Appendix B), therefore, together with the respondent's brief (the respond-

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[1] See footnote p. 3, this brief.

ents filed no Findings of Fact and Conclusions of Law with their brief), from February 27, 1952 until May 12, 1952 when the Court decided the case, **a matter of approximately two and one-half months.**

It will be further apparent that due to the various drafts which were submitted to the District Court, which he rejected until the final draft met his wishes, the statement in petitioners' brief is untrue where they state:

> "This mode of procedure is particularly objectionable and offends justice where, as here, the findings covering 51 printed pages (R. Vol. I, pp. 199-250) are signed the day they were tendered privately to the trial judge, evidencing a complete lack of opportunity to read them through, much less check them against the record with which, as to at least 90% thereof, he was totally unfamiliar." (pp. 6 and 7, Petition for Writ of Certiorari.)

It is also obvious that the statement on page 4 of petitioners' Petition for Writ of Certiorari is also untrue where the petitioners' counsel accuses the District Court as follows:

> "On May 28, 1952, about 30 days after the court said that it could begin the examination of the record * * * the trial judge adopted as his own on the day and at the time filed (R. Vol. I, p. 396) 63 typewritten legal size sheets of findings prepared by patent counsel for respondents and at the same time entered the final decrees from which appeals were taken to the U. S. Court of Appeals for the 5th Circuit."

The record of the Court shows that the Court had the elaborate briefs of the parties and the record available to him from the date of February 27, 1952 and had an opportunity to study the briefs and cases which he desired before hearing argument on March 21 and 22, 1952, and then he took another nearly two months before he advised

counsel for respondents that he had made up his mind to decide the case against petitioners and requested Findings, Conclusions and a Decree.

He then considered the several drafts from May 16, 1952 to May 28, 1952, another two weeks, and entered his Decree and Findings and Conclusions. Therefore, the entire period of consideration by the Court extended from February 27, 1952 to May 28, 1952, a period of nearly three months and **not thirty days as stated by petitioners on page 4 of their Petition.**

We have treated this at some length because this Court may take cognizance of petitioners' charges in such unseemly language, without foundation in fact, by counsel for petitioners against the Learned District Court, the United States Court of Appeals and against counsel for respondents (See p. 15 this brief).

PETITIONERS' UNFOUNDED CHARGE AGAINST THE DISTRICT COURT AS TO THE CALIFORNIA DEPOSITIONS.

In the briefs and arguments there was no dispute as to the essential facts in the California depositions, mainly taken by the petitioners themselves. Therefore, there was no reason for the District Court, **where there was no controversy over the facts,** to open the depositions and read them when counsel were in agreement as to what they showed as evidenced by their elaborate briefs and arguments. **Petitioners do not point out that the depositions are material to their cases.**

The unpleasant charge against the Learned District Judge below is completely without any foundation. It was made before the Court of Appeals and ignored for what it is worth.

REMAINDER OF THE ELABORATE PETITION IMMATERIAL.

We do not deem the rest of the Petition for Writ of Certiorari to be of sufficient importance to warrant a discussion at this time.

CHARGES AGAINST THE DISTRICT COURT, THE COURT OF APPEALS OF THE FIFTH CIRCUIT AND RESPONDENTS' COUNSEL—Pages 2 to 8 of Petitioners' Petition for Writ of Certiorari.

Counsel for respondents respectfully draw your attention to the nature of the charges and innuendoes in petitioners' petition and brief in view of Rule 40.5 of this Court and the following cases: *Green v. Elbert*, 137 U. S. 615, 624; *Royal Arcanum v. Green*, 237 U. S. 531, 546-7; *Ex Parte Secombe*, 19 How. 9; *U. S. ex rel. Hallet v. Green*, 85 F. 857; *Cobb v. U. S.*, 172 F. 641; *Thatcher v. U. S.*, 212 F. 801; *In re Claiborne*, 119 F. (2d) 647 (C. A. 1).

As this matter primarily lies between this Court and petitioners and their counsel, we content ourselves with the comment that, as lawyers enjoying the privilege of practicing before this Court, we take a dim view of the unfortunate and incorrect accusations of petitioners. We hereby certify to the Court that a careful examination of the record and of all proceedings in this litigation furnishes no justification whatsoever for the language employed, the accusations made and the charges delivered, aggravated by omitting statements of fact which would show them to be unfounded.

Never having experienced this sort of conduct before in this Court we hope, in our inexperience, we have done our duty by calling attention to a document that does not

seem to have any place in the records of a Court of this stature.

Respectfully submitted,

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Of Counsel.

February 3, 1955.

In the Supreme Court of the United States

OCTOBER TERM, 1954

No. 541

DANIEL BOSCAWEN VINCENT AND FOOD PROCESSORS, INC.,
Petitioners,
vs.
SUN-CREST PRODUCTS COMPANY,
Respondent.

FOOD PROCESSORS, INC.,
Petitioner,
vs.
SOUTH SEAS CORPORATION,
Respondent.

SAM R. VINCENT, INC.,
Petitioner,
vs.
SOUTH SEAS CORPORATION,
Respondent.

APPENDIX TO
RESPONDENTS' BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

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C. Letter from Clerk of U. S. Court of Appeals, 5th Circuit, dated November 4, 1954, denying Petition for Rehearing of Petitioners------- 107a

APPENDIX A.

PRENTICE E. EDRINGTON
Counsellor at Law
438 Munsey Building
Washington 4, D. C.

June 10, 1952.

J. Thomas Gurney, Esq.,
First National Bank Building,
Orlando, Florida

Dear Mr. Gurney:

Re: Patent Suits Nos. 1364-T 1887-T and 1888-T.

Shortly after service upon you by mail of the consolidated motion for new trial in the above cases, we concluded that such a motion would accomplish little and delay the ultimate final determination of the issues in the cases.

Accordingly, we did not file the motion. Instead, we filed a notice of appeal with instructions to the Clerk to give you and other attorneys of record notice thereof as required by the rules.

Sincerely yours,

(signed) PRENTICE E. EDRINGTON.

APPENDIX B.

PRENTICE E. EDRINGTON
Counsellor at Law
438 Munsey Building
Washington 4, D. C.

February 27, 1952.

Messrs. Toulmin & Toulmin,
308 West First Street,
Dayton, Ohio

Dear Sirs:

There are enclosed two copies each of Suggested Findings of Fact and Conclusions of Law, as well as our Consolidated Brief, in the cases consolidated for trial, being Nos. 1364-T, 1887-T and 1888-T of the docket of the United States District Court at Tampa, involving patents Reissue 22,865 and 2,471,363.

The originals of the enclosed papers have been this day mailed to Judge Whitehurst.

Yours very truly,

/s/ Prentice E. Edrington,
PRENTICE E. EDRINGTON.

PEE: rl
Encs.

No. 1364-T.

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA,
TAMPA DIVISION.

SUNI-CITRUS PRODUCTS CO.,
Plaintiff,
vs.
DANIEL BOSCAWEN VINCENT, *et al.*,
Defendants.

DEFENDANTS' SUGGESTED FINDINGS OF FACT.

Preliminary Statement.

I.

On April 8th, 1947, the very day the United States Patent Office issued to Daniel Boscawen Vincent Letters Patent Reissue No. 22,865, Suni-Citrus Products Co., a Florida corporation, at Haines City, Florida, within the jurisdiction of this Court, engaged in the business of operating a feed mill manufacturing dry citrus pulp cattle feed produced from citrus cannery waste, brought this Civil Action against Daniel Boscawen Vincent of Tampa, Florida, the patentee and then owner of said reissue patent. In its Bill of Complaint plaintiff alleged that Vincent had charged it with infringement of said patent; that there existed an actual controversy between the parties as to the validity and infringement of said Letters Patent; that the Letters Patent, by reason of pleaded prior art and prior uses were anticipated, invalid and not infringed. Plaintiff prayed for a declaratory judgment pursuant to Section 274-D of the Judicial Code (28 U. S. C. A. 400), decreeing that its methods or products did not infringe said reissue patent and that said patent was invalid and void in law. Plaintiff prayed further for an injunction restraining defendant, Vincent, from threatening to sue the plaintiff.

II.

By amended Bill of Complaint, plaintiff charged specifically that reissue patent No. 22,865 was void as to all claims for the reason that—(a) the errors in the original Letters Patent No. 2,215,944, surrendered in obtaining the reissue patent, did not arise by inadvertence, accident or mistake or without fraudulent or deceptive intention; (b) delays and laches on the part of the patentee, Vincent, in applying for the reissue; (c) lack of due diligence in seeking said reissue; (d) the claims of said patent claim an invention different from the original patent; and (e) an estoppel on the part of Vincent to assert infringement or validity because he failed to file his application for reissue after acquiring knowledge with respect to his original patent from a decision of the Board of Interference Examiners of the Patent Office in an interference proceeding and from the Answer of plaintiff, then defendant, in an infringement suit brought by Vincent against it on the original patent, said suit being No. 371 in this Court.

III.

After the disposal of preliminary motions, Food Processes, Inc., a Florida corporation domiciled at Tampa, Florida, alleging that it was the sole owner of reissue patent 22,865, together with all rights to sue and recover for any past infringement thereof, by virtue of assignment dated September 14, 1949, by Vincent to it, filed a motion to intervene and be made a party defendant to this suit.

IV.

By Order entered April 22, 1950, defendants herein were authorized to inspect the plant and processes in use by Suni-Citrus Products Co. By said same Order, Food Processes, Inc. was allowed to intervene and become a party defendant herein.

V.

After the examination of plaintiff's plant and processes on May 4, 1950, Vincent filed an affidavit in the record of this case, as required by the Order of April 22, 1950, in which he set forth particulars with respect to the claimed infringement by Suni-Citrus of claims 1, 2 and 7 to 11, inclusive, of the Reissue Patent in suit.

VI.

Thereafter, defendants, Vincent and Food Processes, Inc., answered the original and amended Bill of Complaint, denied plaintiff's allegations of invalidity and non-infringement, and by counterclaim defendants asserted the validity of the reissue patent in suit and charged plaintiff with the infringement thereof. In its counterclaim defendants prayed for an injunction restraining plaintiff from making, causing to be made, or selling citrus pulp feed made in accordance with the processes of or embodying the invention disclosed and claimed in the reissue patent in suit.

VII.

June 14, 1950, plaintiff filed a reply to defendants' counterclaim and entered new causes of action alleging that Daniel B. Vincent, Food Processes, Inc. and Dan B. Vincent, Inc., a Florida corporation, of Tampa, Florida, had conspired to misuse the patent in suit in contravention of the Sherman and Clayton Anti-Trust statutes. (15 U. S. C. A. Secs. 1, 2, 14, 15 and 26.) By answer to plaintiff's charges of conspiracy and misuse of the patent, defendants denied any such conspiracy in violation of said Anti-Trust laws or any misuse of the patent in suit by the owners thereof.

VIII.

Prior to commencement of trial, plaintiff by motion urged that it had acquired intervening rights which had

accrued to it prior to the issuance of the Reissue patent in suit on April 8, 1947, which entitled it to continue such process or processes covered by the patent in suit without molestation by the owner of said Reissue patent.

IX.

On the pleadings heretofore set forth proofs have been submitted, the case argued and briefs filed. Upon consideration of the proofs of record the Court enters the following findings of fact and conclusions of law.

Findings of Fact.

1. Daniel Boscawen Vincent filed his application for patent in the Patent Office on January 12, 1939. September 24, 1940, the United States Patent Office granted a patent to Vincent, No. 2,215,944, entitled "Food Product and Process for Making." A soft copy of said original patent No. 2,215,944, in evidence as Suni-Citrus Ex. 2, is, by reference, made a part of this finding.

2. At the time of the issuance of the patent, 944, to Vincent as aforesaid (at times hereinafter referred to as Vincent original patent), there was pending in the Patent Office an application for patent by Dr. Wayne M. Neal, filed August 13, 1935, entitled "Method for Treatment of Fruit Wastes." (Neal application File Wrapper, Suni-Citrus Ex. 33.) Both the Vincent original issued patent and the Neal application for patent related to processes for the conversion of citrus cannery waste into dry citrus pulp useful as a cattle feed.

3. September 13, 1940, prior to the issuance of the Vincent original patent on September 24, 1940, Neal sold and assigned his invention and patent application therefor to Citrus Patents, Inc., a Florida corporation controlled by certain officers of the Louisville Drying Machinery Company of Louisville, Kentucky, engaged in the manufacture of pressing and drying machinery adaptable to the production of dry citrus cattle feed. (Neal Deposi-

tion Oct. 4, 1951, at Tampa, pg. 77-78.) (Louisville Dep., Lissauer, p. 711.)

4. The new owners of the Neal patent application, after having seen and read the issued Vincent original patent, concluded that the Vincent issued patent 944 and the pending Neal application contained common subject matter which they believed entitled Neal to certain of the claims allowed to Vincent in said patent. Accordingly, to provoke an interference between the Vincent issued patent and the Neal application, Citrus Patents, Inc., through its Patent Counsel, without any information, aid or assistance from Neal (Neal T. Oct. 4, 1951, p. 79-84, 106-117; T. Robert, Louisville Deposition, Aug. 1951, p. 851-2), but after securing from Neal a Supplemental Oath, prepared an amendment designated "Amendment G," by which the original Neal patent application specification was amended by adding thereto certain subject matter taken from the Vincent issued patent 944, and in connection therewith submitted for allowance by the Patent Office six claims corresponding word for word to claims 1, 2, 8, 9, 13 and 14 of the Vincent issued patent 944. The Neal amendment "G" was filed in the Patent Office on November 20, 1940. (Neal Patent File Wrapper, Suni-Citrus Ex. 33.)

5. Following the issuance of the Vincent patent 944, one Finley, an employee of and assignor to California Fruit Growers Exchange, on March 24th, 1941, filed an application for patent for a Process for Making Cattle Feed from citrus cannery waste in which application Finley incorporated a substantial portion of the subject matter of the specification of Vincent patent 944, and copied the claims thereof.

6. As a result of the Neal amendment "G" and the pending Finley application incorporating claims identical to those in the Vincent patent, both filed in the Patent Office within one year after the issuance of the Vincent original patent (35 U. S. C. A., App. p. 633), an interference was declared by the Patent Office for the pur-

pose of determining which of the parties to the interference was in fact the prior inventor of the common subject matter claimed in claims 1, 2, 8, 9, 13 and 14 of the Vincent Patent 944. After a lengthy *inter-partes* trial at which Vincent, Neal and Finley took voluminous depositions, filed briefs and argued their respective contentions, the Board of Interference Examiners of the Patent Office on October 31, 1944, found and decided that the Vincent patent 944 disclosed a process for making cattle feed from citrus cannery waste in which the reactions of *controlled varied quantities of lime and other specified calcium reagents* added to the shredded waste was completed in a continuous process from 3 to 15 minutes; while Neal's application, on the other hand, disclosed the addition to the waste of a *fixed quantity of .3% of lime* coupled with *an ageing step of from 2 to 3 hours or longer;* that such gel as may have been referred to in the Neal application, as amended by Amendment "G," was not the "transient gel" disclosed and claimed by Vincent but was a non-transient gel by reason of the hours-long standing or ageing periods, —a requisite step of the Neal process. In conclusion the Patent Office decided that, by reason of insufficiency of disclosure, Neal had no right to make the claims of the Vincent issued patent and that Vincent was the prior inventor of the subject matter of the interference counts (claims of the Vincent patent) as against Finley. (Decision Board of Interference Examiners, Oct. 31, 1944, Vincent Ex. 20.)

7. Following the decision of the Patent Office in the interference proceedings declaring Vincent the prior inventor, the owners of the Neal application filed a suit pursuant to R. S. 4915 (35 U. S. C. A. Sec. 63) in the United States District Court for the District of Columbia, for judgment that Neal was entitled to a patent with the Vincent patent claims. (Suni-Citrus Ex. 39.) This suit held in abeyance the finality of the decision of the Patent Office and had the effect of casting a cloud upon the sufficiency and validity of the Vincent patent 944.

8. Prior to the declaration of the above referred to interference, Vincent brought a suit in this Court, No. 371, against Suni-Citrus Products Co., plaintiff herein, charging it with infringement of the Vincent original patent 944. On April 12th, 1946, Suni-Citrus filed its Answer and Counterclaim in said suit, in which, inter alia, it pleaded that the 944 Vincent patent was invalid in law because:

> "(a) The plaintiff (Vincent) has surreptitiously or unjustly obtained the patent in suit for that which was in fact developed by Dr. Wayne M. Neal, 837 Holley Street, Gainesville, Florida, who was either using reasonable diligence in adapting and perfecting the same or had already adapted and perfected the same at the time of the claimed invention of the plaintiff (Vincent)."

and that the subject matter claimed was not fully described. Further in said Answer Suni-Citrus pleaded invalidity of the Vincent 944 patent by reason of alleged prior public uses by Dr. Wayne M. Neal at Louisville, Kentucky, on September 9, 1935, more than two years prior to the date of the invention set out in Vincent's 944 patent. (See pleadings in case Daniel Boscawen Vincent v. Suni-Citrus Products Co., No. 371-T on file in the office of the Clerk of this Court.)

9. As a result of the above recited defenses by Suni-Citrus and in the light thereof, Vincent re-examined his issued patent 944 as well as the decision of the Board of Interference Examiners. (T. Vincent, p. 1786-1789.) He concluded that, although the Board of Interference Examiners in its decision had implied certain limitations in the claims as to length of time of the stability of his "transient gel" and "controlled amounts" of reagents, which it held clearly differentiated the Vincent invention from that of Neal, the Courts might not, in the same fashion, in an infringement suit, apply such limitations as did the Patent Office. (See Vincent Oath appended to application for Reissue File Wrapper, Suni-Citrus Ex. 37.) Whereupon, to more clearly define his invention as originally disclosed and

to more precisely claim his invention by claims incorporating the implied limitations contained in the decision of the Board of Interference Examiners of the Patent Office, and thereby restrict and limit his "controlled amounts" of reagents of his original patent claims to *"controlled varying amounts"* of reagents, and to restrict and limit the "transient gel" of his original patent claims to a *"minutes-stable transient gel"* so as to more clearly distinguish between his gel stable for a matter of from 3 to 15 minutes from any gel allegedly disclosed by Neal which the Patent Office had found was stable for hours and was a non-transient gel, Vincent, on August 4, 1946, filed in the Patent Office an application for a narrowed reissue of his 944 patent. (See Reissue Patent File Wrapper, Suni-Citrus Ex. 37.) On April 8, 1947, the Patent Office granted to Daniel B. Vincent, Reissue Patent No. 22,865, the patent in suit, entitled "Process of Making a Food Product." A photostatic copy of the original grant of said Reissue Patent No. 22,965, to which is attached a soft copy of the patent, in evidence as Vincent Exhibit No. 36, is, by reference, made a part of this finding.

10. The Vincent Reissue Patent 865 is for the same invention disclosed and set forth in the original application filed January 12, 1939. (Not only is this evident by comparing the original and Reissue, but the grant of the Reissue is presumptive evidence that the Reissue is for the same invention.) The claims of said reissue patent do not claim more than was originally disclosed and claimed (if it had the Patent Office would not have issued it), although couched in terminology non-identical to those of the original patent. The claims as drawn and allowed in the reissue patent with the limitations as to the "varying" of controlled amounts of reagents to be added to the citrus waste and characterizing the original "transient gel" as a "minutes-stable transient gel" and a "minutes-stable transient, syrupy gel" are limitations on the broader terminology of the claims of the original surrendered patent, resulting in the reissue patent being a narrowed reissue.

11. In connection with his application for reissue as required by Patent Office Rule 1.175 (35 U. S. C. A., App. p. 626) Vincent filed therewith an oath containing the detailed facts which he contended entitled him to a reissue of his patent 944. (See Oath attached to application for reissue in reissue File Wrapper, Suni-Citrus Ex. 37.) The very defenses pleaded here by Suni-Citrus,—of laches; failure to apply for said reissue on time; that the reissue application was not for the same invention as that disclosed by the original 944 patent; and that the errors in the original patent 944 did not arise by inadvertence, accident or mistake and without fraudulent or deceptive intention; were all issues raised and considered by the Patent Office in the course of the prosecution of the reissue application, and were disposed of favorably to the applicant Vincent by the grant of Reissue 22,865. (See Actions of Patent Office and responses thereto in Reissue Patent File Wrapper, Suni-Citrus Ex. 37.)

12. There is no evidence of record here to show any error on the part of the Patent Office in its allowance of the reissue; none appears on the face of the Patent Office reissue file wrapper in evidence as Suni-Citrus Exhibit 37. Reissue Patent No. 22,865, under the circumstances shown, was properly allowed and is a valid narrowed reissued patent.

13. Defendant, Food Processes, Inc., a Florida corporation of Tampa, Florida, is the sole owner of Letters Patent Reissue No. 22,865, together with all rights to sue and recover for past infringement thereof, by virtue of an assignment to it by Daniel B. Vincent, patentee, dated September 14, 1949, recorded in the Transfers of Patents, U. S. Patent Office in Liber 221, p. 68. A certified photostatic copy of said assignment, Vincent Ex. 9, is, by reference, made a part of this finding.

Citrus Cannery Waste.

14. In the cannery operation of processing grapefruit, oranges and tangerines for the production of canned single-

strength juices, canned concentrated frozen juices, or canned sectionalized citrus fruit, there remains a residue or refuse consisting of citrus fruit peeling, the inner sectional membrane known as "rag" and the seeds, some free fruit juices that escape extraction and sometimes some fresh water used in the canning operation. This refuse, including rejected or culled whole fruit is referred to generally as citrus cannery waste. (The Court can take judicial cognizance of these facts.) In the early days of the citrus canning industry, the disposal of citrus waste presented a problem, for it sours and spoils quickly. (Orlando Dep. Ingols, p. 3995.) Early attempts to use citrus waste as fertilizer met with little success. In a fresh state, or dried without chemical treatment, it can be fed to dairy cattle but certain bitter constituents of the green peel embitter the milk. (T. Geer, p. 434; T. Vincent, p. 61.) The disposal of citrus waste was costly for it had to be quickly hauled to disposal grounds and buried. (T. Hughes, p. 1975; T. Vincent, p. 62.) A method of utilization of citrus cannery waste that would change this material from a liability to an asset to the cannery, and also provide an outlet for culled fruit, was contemplated as of inestimable value to the citrus industry. (Bulletin No. 275, Agricultural Experimental Station, University of Florida, January, 1935, page 3, last paragraph, Vincent Exhibit 107.)

Vincent's Activities.

15. In 1931, Daniel B. Vincent was engaged in operating a mill in Jacksonville, Florida, for the manufacture of mixed feeds. (T. Vincent, p. 60.) He induced Robert B. Webster and J. E. Hull, engaged in the retail mixed feed business in Jacksonville, to join him in erecting at Tampa, Florida, a plant for the manufacture of dry citrus pulp out of citrus waste. (T. Vincent, p. 63-63; T. Webster, p. 718.) Vincent agreed to supply the technical work and Webster and Hull the financing. (T. Webster, p. 719.) Vincent and his associates organized a Florida corporation known as Citrus Pulp, Inc. (T. Webster, p. 718; Vincent, p. 62-63). Beginning in the year 1931 to January 15, 1937,

in its Tampa plant, Citrus Pulp, Inc. was the sole manufacturer and seller in Florida of dry citrus pulp (T. Webster, p. 751; T. Vincent, p. 1454) trade named "CITROSE." (T. Webster, p. 804.) (Orlando Dep. Becker, p. 4160.) It was produced by a method which consisted of passing the citrus waste through corrugated rollers which tended to shred and disintegrate the fibrous structure of the peel, and thereby express some of the citrus peel oil and juices by this operation. From the rollers the disintegrated waste was conveyed to a five-compartment drier heated by a fuel oil furnace. Circulation of heated air was assured by means of pressure and suction fans. In the first compartment of the drier the material was heated to near the boiling point as it was agitated by rotary paddles. The shredded waste passed from compartment to compartment of the drier through continuous agitation until discharged at the outlet with a moisture content of 10% or less. No chemicals or reagents of any kind were added to the waste in the aforementioned operation of Citrus Pulp, Inc. except as hereinafter stated. (Bulletin No. 275, January, 1935, pages 5 and 6; T. of Vincent, p. 1446; T. Webster, p. 749-750.) This method of crushing and drying the waste without chemical treatment produced a product which was far from satisfactory and marketed with considerable difficulty. (T. Vincent, p. 211.) In the drying operation, due to its natural stickiness, the crushed peel had a marked tendency of sticking to the internal mechanisms of the drier. Much of the material in the drying process became scorched and burned, imparting to the finished product an undesirable dark color. (T. Vincent, p. 94.) The product contained the bitter ingredients of the green peel. Prior to January, 1935, Citrus Pulp, Inc. donated to the Agricultural Experimental Station, University of Florida, at Gainesville, Florida, a quantity of its "CITROSE," non-chemically treated dried pulp, which was used for the purpose of carrying out feeding trials to determine its palatability to cattle and the digestibility thereof. (Bulletin No. 275, Agricultural Experiment Station, January, 1935, p. 19 (Vincent Ex. 22); T. Webster, p. 749-756; T. Vincent, p. 90-93.)

16. Prior to the time that Vincent was connected with Citrus Pulp, Inc. he had by early experiments determined that citrus waste having a water content of from 80 to 85% tenaciously bound within the peel, because of its natural slimy condition, was unpressable by mechanical means. In the operation of the Tampa plant by the non-chemical process some of the peel oil and other drippings from the crusher rolls fell into a sump beneath the rollers. This was removed daily by hand shovels and wheel-barrows to burial pits in the ground about the plant premises. (T. Vincent, p. 67-68.) In order to keep down this material's attraction to flies and its disagreeable odor, a menace to health, quantities of commercial grade hydrated lime (calcium hydroxide) were sprinkled indiscriminately on this material in these pits. (T. Webster, p. 794-795.) On occasions prior to the fall of 1934, on examining these pits, at the Tampa plant, Vincent noticed that the action of the lime on some of the material in the pits had produced a reddish color and that in spots about the pits the slimy material had become watery. (T. Vincent, p. 67-68.) This excited Vincent's curiosity (T. Vincent, p. 68) and caused him to begin experiments in December, 1934 at his home in Jacksonville (T. Vincent, p. 66) in which he added dry hydrated lime to ground grapefruit juiced peel (T. Vincent, p. 73; Vincent Ex. 21) which after a lapse of time could be readily dried in his kitchen stove without sticking. (T. Vincent, p. 78.) Thereafter, in the month of June, 1935 (T. Vincent, p. 1070), at the Ford Roofing Company plant in Jacksonville, Vincent carried out further experiments along the lines of his December, 1934, home experiments, adding lime to ground citrus waste, mixing it and crudely pressing the treated citrus mass in gunny sacks by walking on them. (T. Ford, 957-962.) The press cake so obtained was satisfactorily dried without sticking in a model drier, a Vincent invention. (T. Vincent, p. 96, 1052-1060; T. Ford, p. 969.) A commercial size of this model drier had been manufactured and installed in the Citrus Pulp plant at Tampa (T. Vincent, p. 95) in the year 1932. The dried citrus pulp obtained from the model

drier in June, 1935, was delivered by Vincent (T. Vincent, p. 1060-61) to the County Agent for Duvall County, Florida, who successfully fed it to two of his cows without experiencing any ill effects. (T. Lawton, p. 1739-1750.) During the months of June and July, 1936 (T. Vincent, p. 1070-1094) at his Vimco Mill at Jacksonville, Florida, Vincent carried out further pilot plant experimental tests to determine cost of production and to secure other manufacturing data, in which lime, limestone and other alkaline reagents were added to shredded or crushed citrus waste, pressed in a hand cider press (T. Ford, p. 1044) and dried without sticking in the model drier at the Ford Roofing Company plant. (T. Vincent, p. 1062, et seq.; p. 1095, et seq.) A portion of the dried pulp so produced was delivered to the County Agent of Duvall County, Florida (T. Vincent, p. _____), who, during the month of July, 1936, fed it to one of his cows without ill effects. (T. Lawton, p. 1750-52; T. Vincent, p. 1111-12.) In all of the experimental tests made by Vincent during 1934, 1935 and 1936, as aforesaid, he was principally concerned with circumventing the sticking of the peel particles to the drier in the drying operation. (T. Vincent, p. 69, 1448-1449, 1450, 1452.) The pressing of some of the water from the waste, while desirable, was not Vincent's paramount aim. While he was successful in converting the green citrus waste into a product that was pressable and readily dried without sticking to produce a dry citrus pulp of low moisture content, in experimental pilot plant quantities, he did not in these experiments, conceive, realize or understand that the correct quantity of alkaline reagents to be added to citrus waste and control of the method of adding the reagent to produce a desirable dried citrus pulp was critical. (T. Vincent, p. 205, 206, 879, 1099.)

January 27, 1936, Vincent filed in the Patent Office his application Serial No. 61,085 for patent on a process for the treatment of citrus waste. This application disclosed the use of alkaline reagents for the purpose of neutralizing the acids of the waste, make it pressable and avoid its sticking to the drying machinery. (Suni-Citrus Ex. 34.)

April 9, 1937, Vincent filed in the Patent Office a second application Serial No. 136,011, dealing with the treatment of citrus waste with alkaline materials, lime included, to neutralize the acids in the waste, rendering the waste pressable and avoiding sticking in the drying steps. (Suni-Citrus Ex. 35.) In Vincent's early experiments heretofore described his method of adding alkaline reagents to citrus waste followed closely the disclosures of the above patent applications which were on file and being considered at the time he filed his application on January 12, 1939, for his original patent 944.

The disclosures of these applications and the experimental work done by him show that Vincent was attempting to merely neutralize all of the acids in the waste by the addition of lime, limestone or other reagents. (T. Vincent, p. 206, 1458; file wrapper Vincent abandoned application, Suni-Citrus Ex. 34 and 35.) The state of desired neutralization was determined by Vincent in all these tests by tasting the crushed treated citrus waste from time to time until it appeared to him that all of the acids in the peel to which the ingredients were added had disappeared. (T. Vincent, p. 78, 882, 1457-58.) Such experiments as were carried out by Vincent during these years were not productive of processes useful or economically feasible in a commercial plant operation.

17. (a) Due to the persistent skepticism on the part of Vincent's associate, Webster, who was financing the Citrus Pulp, Inc. venture at Tampa, Florida, to the use of lime in the treatment of citrus waste (T. Vincent, p. 1451-52; T. Webster, p. _____), Vincent was unable to secure Mr. Webster's approval to a conversion of the non-chemical method employed in the Tampa plant to the use of the methods which he had developed experimentally. In the fall of 1936 Vincent did secure permission and approval of Webster to proceed carefully to convert the Tampa plant to the chemicals treatment process. (T. Vincent, p. 186.) Vincent thereupon arranged for the loan of a small screw press from the V. D. Anderson Co. of Cleveland, Ohio, and ordered a chemical proportioning feeder from

B. F. Gump Co. to be used in connection with the press. (Vincent, p. 1631-36.)

(b) The feeder arrived at the Tampa plant ahead of the press so Vincent decided to use it to add lime and limestone (T. Vincent, p. 1462) directly into a 9 in. diameter, 9 inch pitch by 30 foot long standard screw conveyor carrying crushed waste from the crusher rolls to the dryer (T. Vincent, p. 102; T. Ford, 975, 979) hoping thereby to improve the process and quality of the dried feed. (T. Webster, p. 720-725.) When the application of lime and limestone was attempted by Vincent one day during the month of October, 1936, he immediately observed that the crushed waste assumed a balled shape and due to the lack of any mixing action (T. Ford, p. 986, 987) in this conveyor and the short period of time of only about 40 seconds in which the crushed material was conveyed through this screw conveyor from the crusher rolls to the drier would not result in any reaction between the lime and limestone and the crushed peel. (T. Vincent, 253; T. Webster, p. 726.) The lime and limestone remaining on the balled surface of the crushed peel in the screw conveyor, not mixed therein, was observable in its course through the drier as raw lime, and the crushed waste still stuck to the paddles in the dryer. (T. Webster, p. 726.) As a result of this, Vincent immediately stopped the experiment. Thereafter, however, until January 15, 1937, powdered limestone was added at random, by hand (T. Vincent, p. 1639-40), as a dietary mineral to the crushed waste in the screw conveyor at the Tampa plant, but by reason of the exceedingly slow reactive action of the limestone on the waste (15 minutes or longer being required), the speedy passage of the crushed waste in the screw conveyor from the crusher rolls to the drier (less than 40 seconds), (See demonstration, Tampa depositions, p. 902, 927; T. Ford, p. ____) and the failure of the screw conveyor to function as a mixer, resulted in no chemical reaction or change in the waste. (T. Webster, p. 727, 804, 805.) It still stuck to the paddles of the dryer and no difference occurred in appearance or physical characteristics of the finished dried feed. (T. Webster, p.

812, 813.) The addition of limestone as a mineral or dietary supplement to mixed feeds of all kinds had always been standard procedure in the mixed feed business and has always had the approval of the authorities of the State of Florida because added calcium is required in feeds for Florida cattle. (T. Neal, Oct. 4, 1951, p. 100, 101; T. Becker, Orlando, p. 4166-4167, 4175; T. Webster, p. 726.)

18. (a) When the press arrived in December, 1936 (T. Vincent, p. 166, 180-81; Vincent Ex. 46F), Vincent set it up in a temporary position to ascertain its capacity and developed data necessary to equip the plant for the chemical treating process. (T. Vincent, p. 181-186.) This involved among other things the building of a mixing conveyor of sufficient size to thoroughly mix the lime into the mass and assure at least a 10 minute holding time for proper reaction between the lime and the waste to take place before releasing the treated mass to the press or to the dryer. The program was placed before Mr. Webster and he consented to make the funds available. (T. Webster, p. 734; T. Vincent, p. 105, et seq.)

(b) Plans for the installation of this machinery were made during Christmas week 1936 and purchase of the necessary material and parts was begun immediately. (T. Webster, p. 734, et seq.) This became known around the plant as the "upstairs conveyors" or "upstairs machinery" because it was built up over the crushing equipment while the crushing equipment was in operation to keep from interfering with production of feed by the old non-chemical process. (T. Vincent, p. 218.) Soon after January 1, 1937, a new set of crusher rolls of improved design developed by Vincent was put in operation next to the old rolls and later connected to the upstairs mixing conveyors by a chain and paddle elevator. This was called the "new mill" because it was a crushing mill. (T. Webster, 784, 818.) The "upstairs" mixing conveyors were completed and ready to start operation January 15, 1937. (T. Vincent, p. 148.) On January 16, 1937, the new arrangement of machinery in the Tampa plant was placed in operation

by Mr. Vincent. (T. Vincent, p. 60; T. Ford, p. 994.) The machinery installed (T. Vincent, p. 153, et seq.; Vincent Ex. 27) consisted of new crusher rolls with chain paddle elevator which functioned to take the crushed material from underneath the rolls on ground level to an upstairs platform about 10 feet above where the material was delivered into the uppermost of two 20 ft. long wooden mixing troughs or conveyors, one of which was superimposed upon the other. (Vincent Ex. 26; T. Vincent, p. 156; T. Ford, p. 990.) Paddles welded to a shaft running down the longitudinal axis of the mixing troughs functioned to gently churn and blend the crushed citrus peel mass and convey it slowly from the entrance end to the exit end of the two mixing troughs in the course of ten minutes. (T. Vincent, p. 194; T. Webster, p. 831; T. Ford, p. 990-91.) At the exit end of the top mixing trough, a hole was cut permitting the material at that point to fall by gravity into the lower trough (Vincent Ex. 26; T. Vincent, p. 160, 161) wherein the material moved in an opposite direction to the far end of the lower trough at which point the material passed through a hole in the trough to a wooden chute. (Vincent Ex. 26; T. Vincent, p. 162-163.) This wooden chute had a by-pass arrangement which permitted a portion of the crushed waste to be by-passed into the experimental Anderson screw press, the balance of the chemically processed but unpressed material proceeding down the chute falling into the 30 foot long screw conveyor heretofore referred to in finding 17, which conveyed both the unpressed material and the pressed material to the drier. (Vincent Ex. 26; T. Vincent, p. 163-164, 192, 193; Vincent Ex. 28.) At the point where the shredded citrus waste fell from the elevator conveyor into the upper mixing trough, there was installed the Gump proportioning chemical feeder. (Vincent Ex. 26; T. Vincent, p. 160-161; T. Webster, p. 742, et seq.) At the start of the operation on January 16, 1937, Vincent added to the crushed waste delivered to the upper mixing trough in the upstairs arrangement, by means of the regulator on the Gump feeder, varying quantities of an alkaline compound com-

posed of lime and powdered limestone. (T. Vincent, p. 197.) In varying the quantities of this alkaline compound added to the shredded waste in the upper mixing trough he discovered and became aware for the first time that as the reagents became blended with the crushed waste, and as it passed down the trough, the liquids of the treated mass assumed a relatively constant, different and brownish color; that the viscosity of the liquids of the mass increased (T. Vincent, p. 203), in a related manner, evidenced by the treated mass resisting the movement of the blades of the paddles of the mixing trough. (T. Vincent, p. 199.) He further observed that when the treated citrus mass reached the exit of the upper trough and fell to the lower mixing trough, when picked up and squeezed in his hand the waste had lost its slipperiness, had undergone a change and stuck together firmly. (T. Vincent, p. 201, 205.) Also, when squeezed there exuded between the fingers of his hand a brownish colored, syrupy, highly viscous substance of gel-like consistency. (T. Vincent, p. 203.) Further, that as the material proceeded down the second or lower trough the viscosity of the material lessened, the mass became brighter in color (T. Vincent, p. 205), and before the material reached the end of the lower trough the mass had separated into a watery liquor and whitish pulpy solids, at which point when pressed in the hand a tan colored water was readily expressable from the mass. Vincent also found on January 16, 1937, that by observing the color changes, the viscous appearance of the mass, and by hand grab tests, and without knowing the acid content of the waste, he could control and vary the amount of alkaline compound so added to produce consistently the syrupy, viscous, gel condition which subsequently broke as the material passed through the lower mixing trough. Soon after the commencement of the operation of the upstairs arrangement in the Tampa plant on January 16, 1937, mechanical difficulty was experienced with the new machinery necessitating a close down of the plant for repairs. (T. Vincent, p. 208-210.) Vincent communicated his discovery to his

associate Webster, (T. Vincent, p. 896), who arrived in Tampa on January 21, 1937. January 21, 1937 (T. Vincent, p. 213), repairs in the meantime having been made (T. Vincent, p. 209-212), the Tampa plant was again placed in operation (T. Vincent, p. 215), at which time Vincent demonstrated in detail to his associate, Webster, what he had discovered on January 16, 1937. The finished product was observably lighter and more fluffy in appearance; a larger bag was necessary to hold 100 pounds of the new dried feed. (T. Vincent, p. 216, 895-899; T. Webster, p. 766-768, 824-826.) From January 21, 1937, and until the Tampa plant was destroyed by fire on March 5, 1937, the Tampa plant was operated and dry citrus pulp was produced and sold using the process later described in the original patent 2,215,944 (T. Webster, p. 768-69), and more definitely and particularly claimed in reissue patent 22,865. (T. Vincent, p. 218.) After the fire on March 5, 1937, the Tampa plant was re-constructed (T. Vincent, p. 64, 219) with some changes including the installation of a press which would handle the pressing of all of the lime treated materials. (T. Webster, p. 772, 775.) This was the first plant in Florida to produce a chemically treated citrus feed. (Orlando Dep. Becker, p. 4192-4193.)

19. The dry citrus pulp produced by the Tampa plant of Citrus Pulp, Inc. beginning January 16, 1937, and thereafter, was a much superior product to that previously produced by the non-chemical treatment method. (T. Ford, p. 1029.) The product of the new process above described was substantially non-bitter, brighter in color and contained no scorched particles. (T. Vincent, 212.) It was fluffier in appearance and because of its greater bulk required a larger bag to contain 100 pounds of the dry citrus pulp. (T. Vincent, p. 237-249; T. Webster, p. 756-761.)

20. In early 1937, prior to the fire on March 5, 1937, Vincent interested capital in the erection of a feed mill for processing of citrus waste in accordance with his said in-

vention at Winter Haven, Florida, which plant was erected and commenced operation in the early part of 1938. (T. Vincent, p. 222.) The Vincent Winter Haven plant utilized the above Vincent process as discovered by him on January 16, 1937. (Vincent, p. 277; T. Ford, p. 1005.)

Citrus Waste in the Presence of Alkaline Materials.

21. The issues in this case relate to processes useful in the conversion of citrus cannery waste into a cattle feed. When properly processed, dry citrus pulp has approximately the same feeding values as that provided by beet pulp. (Orlando Dep. Becker, p. 4181.) Dry citrus pulp is a succulent carbohydrate feed supplementing the grain diet of cattle in areas where there is a scarcity of green forage.

22. In addition to 80 to 85% of bound water in citrus wastes, it contains in its natural state sugars and chemical compounds of a colloidal nature the latter imparting to the peel, rag and seeds a sliminess that makes it unpressable by mechanical means. In the main, these chemical compounds are oils, glucocides and pectins which become soluble when the waste is treated with alkaline materials. (T. Dr. Roy, p. 287.) Some of the chemical constituents of citrus waste, as well as the juice of the fruit remaining on the peel, rag and seeds after the cannery juicing operation, are acidic.

23. The acidity of citrus waste varies depending upon the kind and variety of the fruit, its state of ripeness, where grown, etc. (T. Dr. Roy, p. 324-325; T. Vincent, p. 1666; Orlando Dep. Ingols, p. 3959, 3960.) Culled fruit when used as citrus waste in the manufacture of cattle feed contains, in addition to the acids in the peel and rag, all of the acid juice of the fruit. As citrus waste is conveyed from cannery plant to the feed mill, to be processed into dry citrus pulp in a continuous operation, as is required in successful commercial operation, a feed mill operator has no convenient or ready means for ascertainment of its acidity content or other chemical consistency (T. Geer,

June 6, 1951, p. 380; T. Dr. Cotton, p. 469), since at one moment the citrus waste may be all grapefruit, then all oranges or tangerines, and at other times it may be a mixture of grapefruit, oranges, tangerines, and culled fruit. Thus the acidity of one type of citrus waste or combination thereof or even different lots of the same fruit may vary considerably. (T. Geer, p. 381-382; T. Cocke, p. 131-133; T. Dr. Roy, p. 325; T. Vincent, p. 1783.) Consequently, the critical or exact amount of reagent within sharp limits required to neutralize the required proportion of acids in any particular waste and advantageously process it cannot be practically or economically predetermined. (T. Geer, p. 381.) If too little reagent is used, the required reactions will not take place. Under-treated waste will remain slimy, unpressable and costly to dry, producing an unsatisfactory dry pulp. Under-treated citrus waste may be allowed to stand and age several hours and thus become pressable (Neal Patent), but aside from the delay of the ageing step, the effect of the reagents on the pectins in the peel during hours long ageing periods has a tendency of degrading the pectins (Neal Patent) by hardening them (T. Vincent, p. 41), and producing high percentages of calcium pectate, thus rendering the dry citrus pulp brittle and non-water absorbent. (T. Geer, p. 441, 442.) If over-neutralized by the addition of too much lime or other reagent, citrus waste becomes red in color (T. Vincent, p. 849), malodorous, the excess of lime hardens the insoluble pectin constituents thereby producing an undesirable woody product with little capacity to absorb water, and the resulting feed is unpalatable to cattle and undesirable for milk cows. Also, over-neutralization produces in the dry pulp an excess of calcium pectate which crumbles to a powder, causes digestion troubles in cattle and considerably reduces the yield of dry citrus pulp. (T. Vincent, p. 58; T. Dr. Cotton, p. 393-394.)

24. The desirable qualities in dry citrus pulp cattle feed is one having a minimum of calcium pectate, is fluffy thereby giving large bulk, bright in color, non-bitterness (T. Heid, Depositions May 4, 1950, p. 127), and

having high water absorbent properties. (T. Dr. Cotton, p. 393.) The more water absorbent the feed the more water is consumed by dairy cows, thus increasing yield of milk. (T. Geer, p. 439, 440) (Orlando Dep. Haynes, p. 4321-24, 4330.)

25. Calcium hydroxide (hydrated lime) is an alkali. Ground limestone and oyster shell flour are calcium carbonates. These materials as a group are generally referred to as alkaline materials and are non-toxic. By non-toxic is meant that the feed will not cause toxic poisoning in the blood over long periods of feeding.

26. When an alkaline reagent such as hydrated lime, powdered limestone or oyster shell flour, or a compound of these alkaline materials, is added in dry powdered form to shredded acidic citrus waste, in controlled varying quantities sufficient to produce a different or brownish color (T. Vincent, p. 849) and neutralize the free liquid juices in the waste, the liquids immediately become highly alkaline and will register a pH of 9½ to 10. (Dr. Roy, T. p. 307.) The alkaline materials suspended and dissolved in these free juices reduce the acidity of the free liquids in the shredded mass. As this reduction in acidity approaches neutrality, the liquids in the waste take on a change in color, (Orlando Dep. Ingols, p. 3976-78) the degree in color becoming more intense as the acidity is reduced, and becoming very much darker when reaching the state of alkalinity at which point it will assume a brown color. (Deposition of Cole, May 14, 1951, p. 19; T. Geer, p. 388-389.) These reagents also act to hydrolyze and render soluble the glucocides, the soluble pectins and possibly other chemicals, including those having a bitter flavor, (Orlando Dep. Ingols, p. 3990-91) all of a colloidal nature, in the shredded waste. (T. Geer, p. 586.) In the early stages of solubility these released colloids are present as molecular aggregates in suspension in the liquids of the waste. (T. Dr. Cotton, p. 368-376; Vincent Ex. 68.) Such colloidal suspension in chemistry is known as a "sol." (T. Geer, p. 384.) Continued action of the alkaline materials

results in the sol becoming a lyophilic colloidal system. (Orlando Dep. Ingols, p. 4039-40.) In the presence of the proper amount of alkaline materials, in a matter of seconds the sol begins to stiffen, becomes viscous (T. Geer, p. 385) (Orlando Dep. Ingols, p. 3992) and syrupy and takes on the brownish color aforementioned. (T. Vincent, p. 1499.) In this state it is readily observable as a different colored non-rigid and at times a syrupy gel, on and about the surfaces of the shredded mass particles. (T. Vincent, p. 12; T. Geer, p. 383, 386, 387, 578; T. Dr. Cotton, p. 358, 371, 382-389; Dep. Dr. Heid, May 4, 1950, p. 118.) Within the gel so formed is occluded much of the free liquids and some of the theretofore bound water of the citrus waste. (T. Geer, p. 385.) Under favorable conditions, such as when the proper quantity of alkaline materials have been added to citrus waste to neutralize the free acidic liquids of the shredded waste, and a gel forms, such gels are alkaline, (T. Dr. Cotton, p. 360) but are collapsible in the presence of an acidic medium. (T. Vincent, p. 24; T. Geer, p. 404.)

27. If the treated citrus waste particles covered by the alkaline gel are further gently agitated in a slow moving mixing conveyor known as a delay conveyor, there will begin to exude from the larger particles of the treated waste residual acids, not theretofore neutralized, which will tend to gradually lower the alkalinity of the gel to the point where the gel, just before it becomes neutral, will break and release the water occluded therein. (T. Geer, p. 404, 587-588; T. Dr. Roy, p. 319-320; T. Dr. Cotton, p. 359.) With further mixing this reacidulation continues until the agitated citrus mass again becomes acidic at which time the character of the treated citrus waste within 15 minutes or less from the time the reagent is added to it, will have changed from a bitter non-pressable condition to a substantially non-bitter pressable two-phase product comprising light-colored pulpy solids and a light tan or straw colored watery liquor. When such changed and pressable waste is subjected to a pressing operation the water may be expressed therefrom. Passing with this water are the dissolved constituents.

28. A "gel," formed as above described, is defined as—

"A lyophilic colloid system which may range from a nearly liquid to a semi-solid state, but is typically a semi-solid and of a jelly-like consistency as gelatin, mucilage, uncooked egg whites, etc." (Funk & Wagnalls' Dictionary.)

"Lyophilic" is defined as—

"Pertaining to or designating a colloidal system either phase of which is more or less freely soluble in the other." (Funk & Wagnalls' Dictionary.)

29. (a) The determination of the acidity or alkalinity of the liquids or gels of citrus waste may be accomplished by what is known as a pH meter or by pH test papers. The term pH is a technical symbol in chemistry denoting the negative logarithm of the concentration of the hydrogen ion in gram atoms per liter of solutions used in denoting both acidity and alkalinity. A solution having a pH of 7 is said to be neutral; one having a pH lower than 7 is acidic. A solution having a pH higher than 7 is said to be basic, i.e. alkaline. The pH scale being logarithmic, a solution having a pH of 5 is ten times as acidic as one having a pH of 6. Likewise, a solution having a pH of 9 is ten times more alkaline than one having a pH of 8. (T. Dr. Roy, p. 308-310.)

(b) A pH meter is an electronic device normally capable of registering accurately, under certain circumstances, the acidity or alkalinity of liquids. (T. Dr. Roy, p. 308-310.) pH test papers when dipped into solutions will take on different colors which when compared with a scaled color chart will give a close approximation of the pH of the solution. (T. Dr. Cotton, p. 400-402.) Such pH papers are in general and accepted use in the citrus feed mills operated in Florida.

The Patent in Suit.

30. (a) The Vincent patent reissue 22,865 relates to a continuous method or process for converting unpressable citrus cannery waste into a substantially non-bitter cattle food within a reasonably short space of time, approximately less than 15 minutes.

(b) The object of the patent in suit as set forth in its specification is to provide a continuous process for producing stock food having desirable feeding properties from citrus peel, rag and seed, of grapefruit, oranges, (Col. 1, lines 32-35) including culled fruit (Col. 1, line 9) by chemical treatment to remove controlled amounts of water and those constituents of citrus waste causing objectionable tastes thus producing a new, palatable foodstuff of purity, odor and taste possessed of unusual nutritive qualities. In describing the process outlined, the patent specification (Col. 1, lines 1-31) states that the waste material is preferably ground, but that grinding or pulping is not necessary to all embodiments of the invention. It is stated that the citrus waste may be treated in the form directly resulting from the cannery operation. In describing a preferred typical plant operation, to which the patent is not restricted, the specification states that the halved or quartered peel, together with rag and seed, from the cannery, are crushed, ground or shredded. The disintegrated mass falls into a mixing conveyor where water or recycle liquor and a controlled amount of the selected treating agents are added to the slimy fluid mass. The citrus mass passes through the mixing conveyor, and in which it is agitated, in from 3 to 5 minutes during which time the physical properties of the mass have changed to a watery liquid phase and solid pulp. The processed citrus material is then dehydrated mechanically, for example by a screw press, and the press or filter cake is subsequently dried and bagged. No trained technician or chemist is necessary to control the operation.

(c) The chemical reagents suggested by the patent as useful in the treatment of citrus waste are a number of

alkaline materials. Specifically mentioned and recommended are calcium hydroxide (hydrated lime) and calcium carbonates, or compounds thereof. Calcium carbonates include ground limestone and oyster shell flour. These alkaline materials belong to Group II of the periodic table and are non-toxic.

(d) Depending upon the type of alkaline material used, and the type of waste to be treated, the specification recommends that the varying amount of reagent to be added to citrus waste to neutralize the free acids therein should be "preferably from about .5% to about 5% by weight of the citrus waste to be treated."

(e) In Example I of the patent illustrating the treatment of crushed peel, rag and seed of normal grapefruit in which the natural color of the crushed mass is greenish-yellow at seasonal temperatures the citrus waste having a moisture content of about 80% to 85%, when about .5% by weight of calcium hydroxide was added to slimy crushed citrus waste and while the mixture was being agitated the color turned a light brown and the viscosity of the liquids increased. In about 5 minutes the treated material separated into a greenish-yellow thin liquid and a white pulp. The slimy properties had disappeared, the solids set firmly and the liquor was easily pressed from the pulp. The pressed solids were spongy, white and had a pleasant odor and taste with but little trace of bitterness. Upon drying this material, a bulky, palatable foodstuff of high absorbency was produced.

(f) In Example 2 using the same type of crushed waste and carrying out the process as explained in Example 1, when about 1% calcium carbonate was added to the fresh green citrus material and processed, the reaction was complete in 10 to 15 minutes. The product was palatable, white food similar to that obtained in Example 1.

(g) The specification in column 5, beginning in line 41, summarizes the invention as follows:

> "Stated briefly, my invention contemplates the treatment of citrus waste in a definitely alkaline solution

preferably in the presence of a non-toxi group II metal compound, so as to foster the formation of a gel which is subsequently broken in an acid reaction medium."

Further in column 7, beginning in line 21, the patent states:

"The addition of the controlled varying amounts of alkaline material, a portion at least comprising an hydroxide, to the citrus waste material forms a transient gel of a desirable different color which is stable for only a short duration of time, specifically a matter of minutes, and therefore one that may be characterized as a minutes-stable transient gel. The free acids of the waste are apparently neutralized and the residual citric acids, which are quickly released, produce an acidic medium which breaks the gel to a colored watery mother liquor and lighter colored or whitish pulpy solids. As stated above in the several practical examples, the transient gel is stable for a matter of minutes as distinguished from hours, the duration of stability varying somewhat depending upon the particular reagent employed, but usually being complete in about 15 minutes."

In the final paragraph of the specification of the patent, it is stated:

"While the invention has been described in detail and a number of examples shown, it is to be understood that the invention is not limited to these particular examples and all such changes and modifications as come within the scope of the claims are embraced thereby."

31. As understood by persons skilled in the art, the Vincent Reissue patent in suit is directed to a process for making cattle feed out of cannery citrus waste, wherein the critical and exact varying amount of treating reagent required to be added to the waste to produce the gel can be advantageously determined (T. Dr. Cotton, p. 366, 367) in a continuous plant operation by the change of color, the

physical appearance and feel of the shredded waste when the treating reagent is being added thereto. (T. Geer, June 6, 1951, p. 376; T. Dr. Cotton.) The patent is not limited to the color index method just described. Other means of determining the correct amount of reagent to be added to the citrus waste to produce the process of the claims in suit may be determined by hand tests of the material as the reagent is added thereto or by the viscous appearance of the material resisting the movement of the mixer paddles as it proceeds down the mixing conveyor or falls from one conveyor to another. (T. Geer, June 6, 1951, p. 376, 377, 378, 379.) Further, persons skilled in the art would understand from the disclosures of the patent that the correct varying amount of reagent to be added to the citrus waste to neutralize the free acids in the waste and foster the creation of the differently colored minutes-stable transient gel which will break in the presence of an acidic medium may be determined within certain limits by the condition of the press cake as it comes from the press, provided the waste being treated is of uniform consistency.

32. The claims in suit read as follows:

1. The method of preparing a substantially non-bitter and edible product from citrus waste material which includes the steps or adding to the material controlled varying amounts of non-toxic alkaline compound comprising at least in part an hydroxide to form a differently colored minutes-stable transient gel breaking the said gel in the presence of an acidic medium to form a colored watery mother liquor and lighter colored pulpy solids, and separating said solids and the mother liquor.

2. The method of preparing a substantially non-bitter and edible product from citrus waste material, which includes the steps comprising subjecting the citrus material to a shredding operation treating the material with controlled varying amounts of a non-toxic alkaline material comprising at least in part an hydroxide to form a brown colored minutes-stable transient, syrupy gel and breaking the said gel in the presence of an acidic medium to form

a light brown watery mother liquor and readily separable whitish pulpy solids.

7. The method of preparing a substantially non-bitter and edible product from citrus waste material which includes the steps of adding to the material controlled varying amounts of a non-toxic alkaline earth metal hydroxide to neutralize the free citric acids of the waste as evidenced by the formation of a brown colored minutes-stable transient gel, breaking the said gel in the presence of an acidic medium provided by the residual acids of the waste to form a light brown watery mother liquor and lighter colored pulpy solids, and separating said solids and mother liquor.

8. The method of preparing a substantially non-bitter and edible product from a grapefruit waste material which includes the steps of adding to the material controlled variable amounts of a non-toxic alkaline hydroxide to neutralize the free citrus acids of the waste as evidenced by the formation of a brown colored minutes-stable transient gel, breaking the said gel in the presence of an acidic medium provided by the liberated residual acids to form a watery mother liquor and lighter colored pulpy solids, and separating the said solids and the mother liquor.

9. The method of preparing a substantially non-bitter and edible product from citrus waste material which includes the steps of adding to the material controlled varying amounts of a non-toxic alkaline earth metal hydroxide, which in the presence of water produces an alkaline solution to neutralize the free citric acids of the waste as evidenced by the formation of a brown colored minutes-stable transient gel, mixing and agitating the jelled citrus mass to liberate the residual citric acids and provide an acidic medium, breaking the said gel in the presence of said acidic medium to form a thin watery mother liquor and light colored pulpy solids, and separating said solids and the mother liquor.

10. The method of preparing a substantially non-bitter and edible product from citrus waste material which

includes the steps of adding to the material controlled varying amounts of a non-toxic alkaline earth metal compound from the group consisting of hydroxides of calcium and magnesium, to form a brown colored minutes-stable transient gel, breaking the said gel in approximately 15 minutes in the presence of an acidic medium to form a watery mother liquor and whitish pulpy solids, and separating said solids and the mother liquor.

11. The method of preparing a substantially non-bitter and edible product from citrus waste material which includes the steps of adding to the material controlled varying amounts of a mildly alkaline compound and a non-toxic alkaline earth metal hydroxide to form a brown colored minutes-stable transient gel, breaking the said gel in the presence of an acidic medium to form a watery mother liquor and whitish pulpy solids, and separating said solids and the mother liquor.

Acknowledgments of the Vincent Original Patent 944.

33. (a) In 1941, Daniel B. Vincent filed in this Court a Civil Action 372-T against Citro-Dry, Inc., a Florida corporation, controlled by Arthur Lissauer and Julius Credo, respectively, President and Vice President, of Louisville Drying Machinery, a Louisville Company. In this action Citro-Dry, Inc. was charged with infringement of the original Vincent patent 2,215,944. By final decree of this Court entered May __, 1945, based upon a stipulation of the parties, judgment was entered upholding the validity of patent 2,215,944, finding that Citro-Dry, Inc. had infringed said patent and that defendant had taken a license thereunder which settled plaintiff's claim for past infringement. (See pleadings "Request for Admission"; Louisville Dep. T. Lissauer, p. 679; Ex. Lissauer 5.)

(b) Under a non-exclusive license agreement referred to in the above mentioned decree, dated May 9, 1945, between Vincent and Citro-Dry, Inc., the licensee agreed to pay to the licensor a royalty of 3% of the selling price of every ton of dry citrus pulp manufactured and sold, the royalty not to exceed or be greater than $1.00 per ton. In

connection with the execution of said license agreement, Citro-Dry paid to Vincent the sum of $1,000.00 in settlement of his claim for past infringement. (T. Vincent, p. 1125.) (Lissauer Cross Ex. 5, Louisville Dep. 678.)

(c) In March, 1943, at the time the original Vincent patent 944 was involved in the Patent Office Interference proceeding heretofore mentioned, John M. Kuder and associates of Lake Alfred, Florida, representing corporations controlled by Kuder engaged in manufacturing and selling citrus pulp produced from citrus waste, entered into agreements with Daniel B. Vincent under which the Kuder companies, without recognition of the validity of the Vincent Patent 944, paid to Vincent $4,500.00 in settlement of royalties for past infringement during the 1940-41 and 1941-1942 citrus seasons. Contingent upon the determination of the interference proceedings favorable to the Vincent patent 944, Kuder, et al. secured an option for a license under the said patent. The payment of royalty to Vincent was to be more favorable to Kuder's companies, upon Kuder inducing 70% of the citrus feed manufacturers to enter into license agreements with Vincent for use of the process of his patent. By a second agreement, also conditioned on the favorable decision of the Patent Office, Kuder and his associates, individually, obtained from Vincent an option to acquire a 25% interest in and to the revenue derived from payments of royalties to Vincent. Later, when the Vincent patent survived the attack upon it in the Patent Office Interferences, Kuder and associates defaulted on their said options. (T. Vincent, p. 1126-1138; Deposition Louis Hill, Esq. with exhibits attached.)

(d) Other than above stated no other licenses or agreements were ever made with respect to Patent 944 or Reissue 22,865.

34. The patentee Vincent conceived and reduced to practice the invention disclosed in patent 2,215,944 at the plant of Citrus Pulp, Inc. at Tampa, Florida, on January 16, 1937, as set forth in Finding 18. Said date, January 16, 1937, is the effective date of the original patent 944 and the effective date of the reissue patent in suit.

The Alleged Infringing Process.

35. Between April 8, 1947, the date of the issuance of Reissue No. 22,865, and May __, 1950, the date on which Food Processes, Inc. charged plaintiff with infringement of its patent by counterclaim, without authority or consent of the owner of Reissue No. 22,865 or the patentee, its assignor, at its citrus pulp feed mill at Haines City, Florida, Suni-Citrus Products Company has manufactured and sold dry citrus pulp as cattle feed produced from citrus cannery waste by the following method or process:[1]

36. In the processing of its citrus cannery waste, plaintiff employs a mixture of alkaline and mineral materials in dry powder form. A bag of calcium hydroxide (lime) weighing 50 pounds (Deposition Cocke, May 4, 1950, p. 108) is placed into the hopper of a Draver feeder. On top of the lime in the feeder hopper is added a measuring cup full (weighing ½ pound) of a pre-compounded powdered mixture comprised of 120 pounds of calcium carbonate in the form of oyster shell flour, 40 pounds of iron oxide and 20 pounds of copper sulphate. (Deposition Cocke, May 4, 1950, p. 108-110; Orlando Dep. Hudson, p. 3512-13p Cummings p. 3741-43.) Accordingly, of the total mixture of a single batch of these dry powdered materials, placed in the feeder hopper, the lime comprises 99%, the oyster shell flour ⅔ of 1%, the iron oxide 2/9 of 1% and the copper sulphate 1/9 of 1%. (T. Cocke, Transcript June 4, 1951, p. 134, 135.) The iron oxide and copper sulphate, minerals, are incapable of any chemical reaction on the citrus waste and are added thereto and intended as a dietary supplement. The combination of 99% lime and less than 1% of oyster shell flour results in the lime being the main reagent relied upon to bring about in the waste the reaction hereinafter described. (T. Cocke, p. 136-137; Orlando Dep. Cummings, p. 3791.) Such a mixture of lime

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[1] In following the flow of material it would be of valuable assistance to refer to Suni-Citrus Exhibit 8, showing the plant machinery and flow sheet; also consider affidavit of Emory L. Cocke in the pleadings, dated March 22, 1950, entitled "Affidavit to Supplement Plaintiff's Interrogations on or about July 27, 1948."

and limestone is an alkaline material or compound comprising at least in part an hydroxide. (T. Cocke, p. 137-139.) Lime is an earth metal hydroxide. (Deposition Vincent, May 4, 1950, p. 40.)

37. The Draver feeder is so constructed that it will supply the desired quantity of reagents and minerals to the waste. (Orlando Dep. T. Hudson, p. 3524) (Vincent, May 4, 1950, p. 35.) This is accomplished by the feed mill operator manipulating the feeder's hand-operated control thus adding to the waste a controlled varying amount of the alkaline materials and minerals, required to bring about the color and the formation of a gel as hereafter described. (T. Vincent, p. 286-295; Vincent Ex. 64) (T. Cocke, p. 194; Dep. Cummings, May 4, 1950, p. 16, 17, 25, 27; Dep. Heid, May 4, 1950, p. 130; Orlando Dep. Barber, p. 3113, 3236-37.)

38. From the receiving peel pits the waste in its natural state as it is conveyed by chain paddle conveyor to two shredders passes under the Draver feeder at which point the dry reagents and minerals are deposited by gravity upon the upper surface of the waste. (Deposition Vincent, May 4, 1950, p. 30; T. Barber, p. 3236.) As thus deposited in the shredders the waste with the reagents on it is quickly shredded. The shredding operation produces some mixing of reagents with the shredded waste. From the shredders the torn apart (T. Cocke, p. 178) or shredded treated citrus mass falls into a 10 foot long screw conveyor which delivers it rapidly to the lower end of a chain paddle elevator. In the shredding operation the lime in the free acidic liquids of the waste (T. Cocke, p. 242) begins immediately to react on the waste by neutralizing the free acidic liquids making them alkaline. This alkaline reaction in the liquids of the shredded waste hydrolyzes and renders soluble the glucocides, pectins and other acid constituents in the shredded particles waste. (Deposition Heid, May 4, 1950, p. 118.) At the point where the shredded waste is delivered by the shredder screw conveyor to the lower end of the elevator, within 10 seconds (Suni-Citrus Ex. 8) after the shredding operating, the treated mass has assumed a different and brownish color. (T. Cocke, p. 231, 244;

Deposition Heid, May 4, 1950, p. 129-130.) The mass at this point is still slimy (Dr. Roy, T. p. 306) and the liquids of the mass have a pH of 10, highly basic, i.e. alkaline. (Deposition Vincent, May 4, 1950, p. 34; Deposition Geer, p. 99; T. Geer, June 6, 1951, p. 447.) Within the space of 20 seconds (Deposition Vincent, May 4, 1950, p. 50; Suni-Citrus Ex. 8) the treated citrus mass is carried to the top of the elevator and falls into an inverted Y-shaped chute. (Suni-Citrus Ex. 8.) At this point hand grab tests evidence that the mass has become firm and when squeezed there exudes between the fingers of the hand a viscous brown-colored sweet tasting gel. (T. Vincent, p. 274-284; Deposition Vincent, May 4, 1950, p. 34, 59; T. Geer, May 4, 1950, p. 97; T. Geer, June 6, 1951, p. 447, 450, 453, 648; Deposition Vincent, May 4, 1950, p. 40.) The gel at this point apparent on the shredded waste particles glistens (T. Vincent, p. 862) is syrupy, relatively thick, viscous (Deposition Heid, May 4, 1950, p. 131) and registers a pH of 9 as evidence of its high alkalinity. (Deposition, Vincent, May 4, 1950, p. 37; T. Cocke, p. 246; T. Dr. Roy, p. 284; Deposition Heid, May 4, 1950, p. 119.)

39. By way of the Y-shaped chute (See Suni-Citrus Ex. 8) the treated citrus mass divides and falls into the entrance ends of two delay or mixing conveyors. Each of these delay conveyors is 40 feet long, four feet wide and 4 feet deep. (T. Geer, p. 457.) The bottoms are arcuate shaped with perpendicular sides and open tops. (Orlando Dep. Barber, p. 3121, 3211.) Along the longitudinal axis of each delay conveyor is a rotating shaft to which is welded at uniform intervals, spiralwise, narrow blades or paddles with a slight pitch. (T. Vincent, p. 1700, 1702; Vincent Ex. 99, p. 6, Photo 32381.) The shaft and paddles are operated at a speed of 5 R. P. M. so as to slowly mix and move the treated citrus shredded mass from the entrance end to the discharge end in about 20 minutes or at the rate of about two feet per minute. (T. Geer, June 6, 1951, p. 453-55; T. Vincent, p. 1665.) (Orlando Dep. Barber, p. 3115; T. Hudson, p. 3475.) The slow turning of the delay conveyors' paddles imparts a slow blending action (T.

Barber, p. 3358-9) or agitation to the waste in its passage therethrough. In the entrance end of the delay conveyors the firming up of the material, the increased viscosity of the liquids and the formation of gel is evidenced by resistance of the mass to the mixing paddles due to the increased viscosity of the mass. (T. Dr. Heid, May 4, 1950; Orlando Dep. Hudson, p. 3548-49.) As the combined mixing and slow forward movement of the treated mass progresses in the delay conveyor, residual acids theretofore not acted upon and neutralized (T. Geer, June 6, 1951, p. 455) by the action of the lime are gradually released from the larger peel particles in the mass (T. Geer, p. 600; Orlando Dep. Ingols, p. 4069-70) thereby lowering the state of alkalinity of the citrus mass and the alkaline gel so that by the time the mass reaches midway the length of the delay conveyors (T. Geer, p. 457) the mass has reached neutrality and thereafter before it reaches the discharge end passes into the acidic range. (Deposition Geer, p. 100; T. Geer, June 6, 1951.) The reversion of the previously alkaline mass to an acidic state brings about the breaking of the gel accompanied by a gradual change of the mass to a lighter brown color. (Deposition Geer, May 4, 1950, p. 101; T. Geer, p. 456, 457; Deposition Heid, May 4, 1950, p. 132.) As the gel breaks the water occluded within the gel is released (T. Geer, p. 600) the solids of the mass have changed in character leaving a two-phased product comprising light colored pulpy solids and a separable straw-colored watery mother liquor. (T. Geer, p. 460; Vincent, p. 273-274.) The high viscosity of the mass at the beginning of the delay conveyor has definitely broken as indicated by lack of resistance to the paddles after the mass has moved about half way down the mixing conveyor. (T. Vincent, p. 862.) In this changed condition the converted citrus mass is acid and readily pressable. (T. Cocke, p. 248.) The press liquor (Orlando Dep. Ingols, p. 4080) will register a pH of 6 or thereabouts. (Deposition Geer, May 4, 1950, p. 100; T. Geer, p. 459; Deposition Cummings, May 4, 1950, p. 25.) (T. Barber, p. 3122, 3139.)

40. At the exit of the delay conveyors, by way of a screw conveyors, the pressable citrus mass in its new two-phase state passes out of the two delay conveyors to the lower end of a drag paddle elevator conveyor designated by plaintiff as a "fanger." The fanger bottom along its entire 25 foot length is fitted with a perforated slotted screen. (T. Vincent, p. 296-297; Orlando Dep. Hudson, p. 3577.) As the pressable pulpy solids and separable watery liquor moves up the inclined fanger, the free water or press liquor drains through the screen. (T. Cocke, p. 75, 137; T. Geer, p. 461; Admission in Affidavit of Cocke dated March 20, 1950, entitled "Affidavit to Supplement Interrogatories," p. 2, par. 2.) When the drained pressable pulp reaches the top of the fanger it falls in a screw conveyor so equipped with by-passes that a portion of the material is delivered into the top of each of 5 Zenith Screw Presses functioning to press and mechanically dehydrate the pressable pulp within the space of one minute. (T. Vincent, p. 267, 268; Suni-Citrus Ex. 8.) Pipe lines supply each press with steam introduced by way of resistor bars within the presses. (T. Cocke, p. 159.) This steam acts as a lubricant (T. Vincent, p. 262, 263; Vincent Ex. 60) to the pressable pulp in its one-minute passage thru the press. (T. Vincent, p. 267, 268; Suni-Citrus Ex. 8; T. Cocke, p. 158; T. Vincent, p. 1731.) The pressed pulp coming from the presses is known as press cake which has a moisture content of approximately 70%. The press waters draining from the pressing operation as well as the water screened off in the elevator fanger are utilized in the manufacture of citrus molasses which may or may not be added to the press cake prior to further dehydration by the drying process.

41. From the presses the press cake is conveyed to revolving drum driers where by direct heat the press cake is further dehydrated. As it exits from the driers in the shape of a substantially non-bitter (T. Vincent, Deposition May 4, 1950, p. 29) non-toxic, bright colored dry citrus pulp with about 10% moisture content, the product is subjected to cooling, dust removal and bagging steps.

42. In the foregoing process Suni-Citrus utilizes the change in color, the feel and viscous appearance of the treated waste observable in its conveyors after the shredding operation as an index in determining the critical amount (Orlando Dep. T. Barber, p. 3113) of reagent to added to the waste. (Deposition Vincent, May 4, 1950, p. 31-32; Dep. Heid and Cummings, May 4, 1950, pgs. 26, 27, 129, 130, 132; Orlando Dep. Hudson, p. 3528.) The reversal of steps of applying to the citrus waste treatment reagents as before described prior to the shredding operation, rather than on and in the shredded citrus mass, after the shredding operation, as set forth in claim 2 of the Reissue patent in suit, is not advantageous nor does it have any different effect on the waste. (T. Vincent, p. 1049; T. Coffee, Louisville Depositions, p. 607-08; Schwarz, Orlando Dep. p. 2298.) No different reaction of the reagents on the waste is accomplished or different result obtained by this reversal of steps. (T. Vincent, p. 1732-1734.)

43. The process used by Suni-Citrus as before described embodies the invention of Reissue Patent 22,865, and results in the conversion of citrus cannery waste into a substantially non-bitter and non-toxic edible cattle food by a method which in all respects responds to the terminology of claims 1, 2, 7 to 11, of the Reissue patent in suit, and is an infringement thereof.

Prior Art.

44. The following patents and publications were available to those skilled in the art prior to January 12, 1939, the filing date of original Vincent patent 2,215,944, the effective date of the Reissue patent 22,865, the patent in suit.[1]

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[1] In submitting this suggested finding we have used the filing date of original patent 2,215,944, as the effective date of the patent in suit so as to include all prior art relied upon published prior to January 12, 1939. If the Court agrees with us that Vincent and Food Processes, Inc. have successfully established January 16, 1937, as the effective date of the patent in suit, then all patents and/or publications dated and published after January 16, 1937, are not prior art in this case and should be eliminated from the Court's findings.

(a) U. S. Patent to *C. M. Cole and Howard W. Hall*, No. 1,991,242, granted February 12, 1935. (Suni-Citrus Ex. 4a.)

(b) U. S. Patent to *Emory L. Cocke*, No. 2,126,947, applied for December 7, 1936, granted August 16, 1938. (Suni-Citrus Ex. 4d.)

(c) Report for the fiscal year ending June, 1926, of the University of Florida, Agricultural Experimental Station, Gainesville, Fla. with particular reference to pages 25R and 26R. (Suni-Citrus Ex. 6a.)

(d) Article by *Nigel G. Ball* entitled *"On the Action of Pectase"* printed in Scientific Proceedings of the Royal Dublin Society, No. 29, published January, 1915, in London, England, pages 349 to 356, inclusive. (Suni-Citrus Ex. 6b.)

(e) Article by *H. D. Poore* entitled *"Discovery of Naringin & Pectin from Residues,"* pages 637-39, incl., Industrial Engineering Chemistry, published in June, 1934. (Suni-Citrus Ex. 6d.)

(f) Article by *Dorothy Haynes*, entitled *"The Gelatinization of Pectin in Solutions of Alkalis and Alkaline Earths,"* published in Bio-Chemical Journal, Vol. 8, in the year 1914, at London, England, pages 539-547. (Suni-Citrus Ex. 6c.)

(a) U. S. Patent to Cole & Hall, No. 1,991,242.[2]

45. The Cole & Hall patent entitled *"Disposal of Industrial Waste"* (Suni-Citrus Ex. 4a) has for its main purpose the treatment of citrus cannery waste so as to render the waste more readily disposable. It suggests mixing into comminuted waste ground leguminous materials such as alfalfa or clover containing enzymic properties known as pectase to change the non-pressable character of the waste

[2] For a detailed comparison and analysis of the patent in suit vs. Cole & Hall, see T. Vincent, p. 1659, *et seq.*

and rendering it pressable. (T. Geer, p. 407.) Lime, it is suggested, may be used with or without the enzyme to reduce the acidity of the waste, but lime or other alkaline reagent is not added in an amount sufficient to neutralize the free acids of the waste. (T. Geer, p. 406.) The patent states that when lime is added in such quantities as to bring about a neutralization of the waste or just beyond and it attains an alkalinity of pH 7.5, the waste becomes malodorous and is unfit for a food product. Notwithstanding that the Cole and Hall patent was cited as a reference against and considered by the Patent Office in the course of the prosecution of the Vincent original application for patent 944, said patent was allowed. (See file wrapper, Vincent application, Suni-Citrus Ex. 36.)

The Cole & Hall patent does not disclose or suggest to persons skilled in the art a process for converting citrus cannery waste into a substantially non-bitter cattle food by the addition to the waste of alkaline materials in controlled varying amounts to form a different colored or brownish colored minutes-stable transient or syrupy gel and breaking the gel in the presence of an acidic medium in a continuous process within the space of time of not more than 15 minutes to produce pulpy solids with separable watery mother liquor. (T. Geer, p. 409.)

(b) U. S. Patent to Cocke, No. 2,216,947.

46. The Cocke patent (Suni-Citrus Ex. 4d) entitled *"Food Product and Process of Making"* relates to the production of cattle food from citrus cannery waste, to which, in the process minerals are added to provide a dietary supplement.

The process disclosed consists of adding to citrus waste 0.8% of a mixture of minerals comprising—

Oyster shell flour	2000 pounds
Dolomitic limestone	1000 "
Dicalcium phosphate	1000 "
Ferric oxide	50 "
Copper sulphate	2 "
Potassium iodide	1 "

With the minerals added thereto, the entire treated product is placed in an enclosed vessel and subjected to cooking accompanied by agitation. The cooked and agitated mass is then pressed with a further cooking step by application of steam in the pressing operation. The press material is then further dehydrated by the application of heat.

This patent states that the first cooking step causes the cellular structure of the citrus waste to burst, thus breaking down the walls of the waste, facilitating the entry therein of the mineral mixture to thus produce a homogeneous food product. The added minerals do not neutralize the acids of the waste, for the patent states that the action of the minerals on the cooked waste causes its inherent acids to hydrolyze the sucrose, dextrose and levulose in the waste. The patent makes no reference to the use of lime as a treating agent. (T. Geer, p. 427.)

This patent fails to suggest to persons skilled in the art a 15 minute continuous process for the conversion of citrus cannery waste into a substantially non-bitter food product in which a controlled varied amount of non-toxic alkaline materials, including lime, is added to shredded waste to form a different colored or brown colored minutes-stable transient gel or minutes-stable transient syrupy gel and breaking said gel in the presence of an acidic medium resulting in a two-phase product of pulpy solids and separable watery liquor. (T. Geer, p. 426-431.)

(c) Annual Report of the University of Florida, Agricultural Experimental Station, for the Fiscal Year Ending June 20, 1926.

47. This report (Suni-Citrus Ex. 6a) at pages 25R and 26R contains disclosure relating to use of untreated grapefruit refuse as a dairy feed (T. Geer, p. 433-34) and the growing demand for information as to the value of such refuse as a feed for livestock. In reporting its value as a milk producer and in its study of its effect on the animals to which it was fed as a supplement to the animals' grain ration, this publication reports that the dried grape-

fruit refuse supplied for feeding tests made in 1925, did have a tendency to increase the milk flow.

The above report makes no reference to the treatment of citrus cannery waste with alkaline materials by a process such as is involved in this case. (T. Geer, p. 433.)

(d) Scientific Proceedings of the Royal Dublin Society, 1915.

48. It does not appear from the record in this case that the article by Nigel G. Ball, in the Scientific Proceedings of the Royal Dublin Society, published in London in 1915 (Suni-Citrus Ex. 6b) was included in the pleadings or in the notices to defendant as required by R. S. 4920 (35 U. S. C. A., Sec. 69). Accordingly, this publication is not properly in evidence as an anticipation of the Reissue Patent in suit. Considered as showing the state of the art prior to the effective date of the patent in suit, this article entitled *"On the Action of Pectase"* discloses to persons skilled in the art that when pure pectin (T. Geer, p. 437) extracted from carrots (T. Geer, p. 438) is treated with pectase (the enzyme of the leguminous plant Syringa) that the enzyme coagulates the pectin and brings about after 2 hours a highly viscous gel.

There is contained in said article no suggestion of the use of alkaline reagents added to citrus cannery waste to change its character from a non-pressable condition to a pressable two-phase product comprising pulpy solids and separable liquor to produce a substantially non-bitter cattle feed. (T. Geer, p. 437-438.)

(e) Article by H. D. Poore, Industrial and Engineering Chemistry, June, 1934.

49. The Poore article (Suni-Citrus Ex. 6d) was not noticed defendants as required by R. S. 4920 (35 U. S. C. A., Sec. 69). Considered as showing the state of the art this article discloses analyses of grapefruit residues as having 3 and 4.5 of pectin and about 0.75% of naringin present and describes methods for the determination of

pectin and naringin in the residue and processes for their production on a commercial scale.

This article makes no reference to changing the non-pressable character of citrus cannery waste into a substantially non-bitter food product by the addition to the waste of alkaline reagents, or to any process or method analogous to or remotely similar to that disclosed in and claimed by Reissue patent 22,865. (T. Geer, p. 591.)

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analogous to or remotely similar to that disclosed in and claimed by Reissue patent 22,865. (T. Geer, p. 591.)

50. When plaintiff's expert, Dr. Roy was asked to refer to the foregoing Agricultural Station Report, and the articles by Ball and by Poore, he stated that the Haynes article hereinafter referred to in the next finding was the only one he would care to refer to. (T. June 5, 1951, Dr. Roy, p. 283.)

(f) Article by D. Haynes published in "The Bio-Chemical Journal," October, 1914.

51. The Haynes article entitled "*Measurement of the Rate of Precipitation of Pectin by the Alkalis and Alkaline Earths*" describes laboratory experiments wherein there was added to pure pectin (Geer, June 6, 1951, p. ------) alkalis and alkaline earths, (potassium hydroxide, aluminum hydroxide, barium hydroxide) which cause the pectin to react and form, on standing, a stiff jelly.

This article is devoid of any suggestion or teaching in relation to a process for the conversion of citrus cannery waste into a food product. (T. Geer, p. 443.)

Application for U. S. Patents Co-pending With Vincent's Application for Patent 944.

52. At the time Vincent filed his application for patent on January 12, 1939, which later matured as his original patent 2,215,944, on September 24, 1940, there were pending in the Patent Office the following applications for patents:

A. Application of Wayne M. Neal, Serial No. 36,035, filed August 13, 1935, later granted on April 10, 1951, as U. S. Patent 2,548,510 (Minute Maid Ex. 4).

B. Application of Adolph W. Lissauer, Serial No. 107,409, filed October 24, 1936, later granted as U. S. Patent No. 2,187,501 (Minute Maid Ex. 4).

These co-pending applications are evidence of the knowledge Neal and Lissauer may have had prior to the filing date of the Vincent original patent 944 as well as the Reissue patent in suit.

A. The Neal Patent Application filed August 13, 1935.

53. The Neal application filed August 13, 1935, discloses the applicant's knowledge of a method for the conversion of unpressable citrus cannery waste into a cattle food, by a process in which .3% of calcium alkaline materials, determined from the weight of the waste, is added to shredded waste which is then mixed in a pug mill. The mixing step in the pugmill, the application states, was to produce a homogeneous mixture to agglomerate the colloids and pectic constituents of the mass. From the pugmill the treated mass passes to an ageing vat or bin where it was allowed to stand or age from two to three hours, or a longer time, if desired, as overnight for example. After this specified ageing period the mass was subjected to a pressing operation yielding a press cake having a moisture content of from 60 to 70% which was further dehydrated by drying.

In the original Neal application (original application filed August 13, 1935, Suni-Citrus Ex. 33, page 10), and in the patent as issued (Suni-Citrus Ex. 4b), reference is made to a "gel structure." This "gel" is not formed as a result of the addition of alkaline reagents to the shredded waste but is the applicant's description of the slimy colloidal constituents of citrus waste in its natural state prior to any treatment. (T. Neal, Tampa deposition, October 4, 1951, p. 84-85; T. Geer, p. 672, 673, 674.)

The Neal patent application as filed and prosecuted and the issued patent suggest neither the removal from the waste of the bitter constituents therein or the making by his process of a substantially non-bitter food product, nor do they call for a quick continuous process in which controlled varying amounts of alkaline materials are added to the waste to neutralize the free acids in the waste to foster the formation of a "differently colored" or "brown

colored," "minutes-stable transient gel" or a "minutes-stable transient, syrupy, gel" and "breaking the said gel in the presence of an acidic medium." (T. Geer, p. 413-425.)

The dictionary and accepted definition of the word "transient" is "of short duration," "ephemeral"; "fleeting"; "brief"; "fugitive." If it is assumed that in certain cases the acidity of the waste was such that .3% of lime, determined from the weight of the waste, when added thereto was sufficient to neutralize the free acids of the waste and inherently produce a "gel" in the course of the process disclosed, such "gel" had it been conceived and disclosed by Neal, by reason of its hours long standing and ageing, a required step of the Neal disclosure, would be a "non-transient gel" and not the transient gel of the Reissue patent in suit. (T. Geer, p. 385-386; Vincent Ex. 20; Patent Office Decision October 31, 1944, Vincent Ex. 20).

As heretofore set out in findings 4 to 6, inclusive, the disclosures of the original Neal application, as amended, and those of the Vincent issued patent 944, were fully considered by the Patent Office in contradictory interference proceedings. In its decision on October 31, 1944, (Vincent Ex. 20) after considering all of the evidence offered by the parties, the Patent Office found and decided that the Neal disclosures were insufficient to warrant allowance of the Vincent patent claims to him. The proofs here parallel those before the Patent Office. No other proofs warrant a finding that said decision of the Patent Office was erroneous.

The decision of the Board of Interference Examiners of the Patent Office dated October 31, 1944, Vincent Ex. 20, is by reference, made a part of this finding.

B. Lissauer's Patent Application filed October 24, 1936.

54. The Lissauer patent application entitled *"Treatment of Waste Material"* (Suni-Citrus Ex. 4c) discloses Lissauer's knowledge relating to a process for the treatment of citrus wastes. By attached "flow sheet" drawing and as described therein, Lissauer discloses a method for

converting citrus cannery waste into a cattle food by a process in which the cannery waste in its natural state is subjected to soaking in hot water of approximately 190° to 205° for 5 minutes to swell the waste, and make soluble the pectins so that they may leach therefrom. (T. Geer, p. 411.) The soaked waste is then subjected to a filtering step whereupon it is shredded in a hammermill, the function of which is to crush and beat into the waste alkaline materials in slurry form introduced into the waste as it enters the hammermill. The amount of lime or other alkaline materials in slurry form recommended is stated to be from .3% to .5% of the weight of the green untreated waste (T. Geer, p. 412) which acts to reduce the viscosity of the natural sliminess of the waste. The lime dissolved or suspended in the water of the slurry enters into intimate contact with the cell structure of the waste and begins to react with the pectins in the waste to form a hard pectate. The added lime will only give satisfactory results after the soluble pectins are removed from the waste by the soaking step. (Page 2, Col. 2, line 19.)

From the hammermill the thus treated shredded waste is directed to settling vats or bins in which it is allowed to remain 30 to 60 minutes (T. Geer, p. 412) whereupon it is subjected to a second filtering, then pressed and dried.

As a result of the several steps of the process, the patent states (p. 3, line 61), the coagulated suspensions of insoluble pectin are retained in the final product, the soluble pectins alone being sent to waste.

The Lissauer patent suggests the removal of only the soluble pectins and does not suggest or teach the removal of the bitter tasting constituents of the waste to produce a substantially non-bitter food product. Nor does this patent suggest the addition of alkaline materials to citrus waste in such controlled varying amounts that the free acids of the varying acidic waste will be neutralized to form a different colored or brownish colored minutes-stable transient gel and the breaking of said gel in the presence of an acidic medium by a process completed within a period of 15 minutes. (T. Geer, p. 413.)

Alleged Prior Uses.

55. By the original complaint filed April 8, 1947, plaintiff pleaded, as negativing the novelty of the Reissue 22,865, the following alleged prior uses:

(i) By Dr. Wayne M. Neal at Gainesville, Florida (Original Complaint, par. 7(c) p. 9).

(ii) By Dr. Wayne M. Neal at Louisville, Ky.

(iii) By Julius Credo, at Louisville, Ky.

(iv) By Arthur Lissauer at Louisville, Ky.

(v) By Jackson & Church, Saginaw, Michigan, in September, 1936.

(vi) By Suni-Citrus Products Co. at Haines City, Florida.

(vii) By Citrus Pulp, Inc. at Tampa, Florida.

(viii) By Emory L. Cocke at Atlanta, Georgia.

(IX) By Daniel B. Vincent in Tampa, Florida.

By stipulation dated November 16, 1950, the Bill of Complaint was amended to include alleged prior uses, as follows:

(X) By Exchange Lemon Products Company, a Branch of the Citrus Growers Exchange at Corona, California, in the year 1923 and thereafter particularly during the period November, 1926 and May, 1927.

(XI) United Chemical Company in the vicinity of Corona, California, between November, 1926, and May, 1927.

(XII) Anaheim Citrus Pulp Co., Southern California Citrus Food, Inc., and Cal Tone Corporation, Southern California in 1926 and subsequent thereto.

On December 27, 1950, more than 30 days prior to trial, plaintiff served upon defendant a notice pursuant to the requirement of Sec. 4920 of the Revised Statutes (35 U.S. C.A., Sec. 69) that at the trial of this case it intended to rely upon the following alleged additional prior public uses:

(XIII) Kuder Meal Company at Anaheim, Calif.

(XIV) Kuder Orange Meal Company, at Anaheim, California.

(XV) John M. Kuder, at Mission Dry Corporation, Los Angeles, California, and at Colton, California.

(XVI) John M. Kuder at Lake Alfred, Florida.

(XVII) Frank E. Burman of Phelps, Wisconsin, at Saginaw, Michigan, in September, 1936 and thereafter.

(i) Alleged Neal Prior Uses at Gainesville, Florida.

56. During the months of July and August, 1935, Dr. Wayne M. Neal, a bio-chemist employed by the Agricultural Experimental Station, University of Florida, at Gainesville, Florida, carried out a series of experiments in the laboratory of the station in which he added to ground grapefruit and orange citrus waste alkaline reagents for the purpose of rendering the waste pressable and to extract therefrom the greatest possible amount of the water bound in the waste. (T. Neal, Tampa, Oct. 5, 1951, p. _____.) In the experiments so carried out the alkaline reagents used were calcium oxide (unslacked lime) calcium hydroxide (hydrated lime) and calcium carbonate (ground limestone). In these experiments Dr. Neal did not consider the different acidity contents of the citrus waste material treated nor the varying chemical constituents of grapefruit and oranges. In all of his tests, as shown by laboratory notes made at the time, he added to the ground grapefruit and the ground orange waste the same .3% of the alkaline reagents, calculated and predetermined by the weight of the test samples of ground waste. In each experiment waste with the reagent used mixed therein was then allowed to stand and age for various periods not less than 3 to 5 hours and in most instances overnight. This standing and ageing period was thought necessary so that the reagents used might degrade and harden the pectins

in the waste. After the ageing period the treated aged waste was pressed and dried in a laboratory oven.

The foregoing laboratory tests formed the basis for the disclosures of the Neal patent application filed August 13, 1935, more particularly referred to in findings 2 to 7, incl. and 39.

(ii, iii and iv) Neal, Lissauer and Credo Alleged Prior Uses at Louisville, Ky. (Louisville Depositions.)

57. Prior to September 9, 1935, Neal became acquainted with Julius Credo, Vice President of Louisville Drying Co. of Louisville. At that time he disclosed to Credo his method of treating citrus cannery waste to secure a pressable product. Making use of the disclosure of Neal, Credo and Arthur Lissauer, President of Louisville Drying Co., in the laboratory of said company carried out tests prior to and following September 9, 1935, in which apple pomace, pimiento waste and citrus waste were treated with predetermined amounts of lime in various amounts based upon the weight of the shredded waste involved. The oral testimony supplemented by available contemporaneous laboratory reports outlining the experimental work done in the laboratory at Louisville, including a day long test supervised by Dr. Neal on September 9, 1935, establishes that all of these tests paralleled the work done by Dr. Neal at Gainesville prior to the filing of his patent application on August 13, 1935. The lime was added to the waste in definite predetermined proportions and not in controlled varying quantities; the treated waste was aged approximately 3 hours or more before it was pressable.

Following the experiments supervised by Neal on September 9, 1935, Lissauer and Credo, in order to shorten the ageing period of citrus waste treated with .3% lime, applied live steam to the treated waste. The pressing operation was unsatisfactory for after pressing the moisture content of the waste was higher than before pressing. (T. Kerwin, Louisville, August, 1951, p. _____ Kerwin Ex. _____.)

(v) Jackson & Church, Saginaw, Mich. Prior Uses.

58. There is no evidence of record to show any prior use by Jackson & Church at Saginaw, Michigan, as alleged.

(vi) Suni-Citrus Alleged Prior Use.

59. About January 20, 1937, Suni-Citrus Products Co. placed its newly constructed citrus pulp feed mill in operation. (Let. Jan. 14, 1937; Orlando Dep. Haynes, p. 4311; Haynes Ex. 5, p. 4276.) From January 20, 1937, until the close of the citrus season in May, 1938, Suni-Citrus converted citrus cannery waste into dry citrus pulp cattle feed by a process encompassing the following steps:

Citrus waste, prior to slicing with a beet slicer, was placed in layers in a sunken concrete "treatment tank." Upon each of the layers of the waste in the tank was added calcium hydroxide (dehydrated lime) at the rate of 15 pounds to each ton of waste or ¾ of 1%. The waste thus chemically treated was allowed to stand and age in the tank for not less than 2 hours whereupon it was sliced, pressed and dried. (T. Neal, p. 539-542; Deposition Asher Oakes, Portsmouth, Ohio.)

During the close down period in the summer of 1938, Suni-Citrus constructed ageing bins which replaced the treatment tank. (T. Cocke, p. 179.) Beginning in the fall of 1938 until the end of the citrus season 1946, Suni-Citrus added predetermined quantities of lime to citrus waste, shredded it and conveyed it by chain paddle conveyors without any mixing to the compartments of the ageing bin (Orlando Dep. Ingols, p. 3877) where the treated shredded waste was held and aged not less than two hours then pressed, dried and bagged. (Deposition Asher Oakes.) During the summer of 1946 Suni-Citrus abandoned the ageing bin process and in lieu thereof installed two delay conveyors (Orlando Dep. Ingols, p. 3881) and as thus constituted the organization of machinery in the Suni-Citrus plant produced dry citrus pulp from cannery waste in conformity with the process set forth in findings 35 to 42. (Deposition Heid, May 4, 1950, p. 124-125.)

(vii) Prior Use by Citrus Pulp, Inc. at Tampa, Florida.

60. As previously shown in finding 16, Citrus Pulp, Inc. of Tampa, Florida, prior to January 16, 1937, used in the production of dry citrus pulp manufactured from citrus cannery waste, a process which did not involve any chemical treatment of the natural citrus waste. (T. Vincent, p. 1730.) From January 16, 1937, until said feed mill went out of business in 1938, it used the process installed therein by Vincent who was owner of a one-third interest in said plant. The unsuccessful use of lime on one occasion in November, 1936, and later use of limestone as a mineral dietary supplement, did not bring about any change in the character of the waste and did not, prior to the effective date of the Reissue patent in suit, constitute a prior use.

(viii) Alleged Prior Use by Emory L. Cocke.

61. During August, 1936, Dr. Wayne M. Neal disclosed to Emory L. Cocke of Atlanta, Georgia, his process for the treatment of citrus waste as disclosed in his pending application for patent. (T. Neal, June 6, 1951, p. 488, 489, Exhibit 31 attached to Burman Deposition.) Shortly thereafter, Frank E. Burman, having engineering experience in the manufacture of beet sugar, was engaged by Emory L. Cocke to design a citrus pulp feed mill to be erected at Haines City, Florida. During September, 1936, Burman went to Atlanta, Georgia, to confer with Cocke in regard to Cocke's plans, and while there Cocke disclosed to Burman, and carried out in Burman's presence, an experiment with citrus waste wherein the waste was treated with 3% of lime predetermined from the weight of the waste, which was then aged, pressed and dried. The process employed was in accordance to the prior disclosures of Neal to Cocke. (Burman Deposition at Chicago in Suit 371-T; T. Cocke, p. 151).

(ix) Alleged Prior Use by Daniel B. Vincent.

62. Daniel B. Vincent did, prior to January 16, 1937, employ processes by which he produced dry citrus pulp by a method of treatment of the waste with alkaline materials. These experiments more fully set forth in finding 15-18 were all performed in secret and did not constitute a public use. (T. Vincent, p. 110. All of these early experiments by Vincent whereby dry citrus pulp was produced, were by methods dissimilar to those of the patent in suit, and did not constitute prior uses.

(x and xi) Alleged Prior Use at Exchange Lemon Products Co. & United Chemical Co.

63. At Exchange Lemon Products Co. and the United Chemical Co. at Corona, California, in November, 1926, and May, 1927, experiments were carried out in the treatment of citrus waste with lime. The object in view was the disposal of citrus waste and not its conversion into a cattle food. Lime added to the waste produced a press cake that felt like damp sawdust indicating that the waste was overlimed. Notwithstanding there were 75 tons of waste to be disposed of daily. These experiments proved so unsuccessful that further attempts to treat the waste with lime were abandoned. (See Depositions of Taylor and Beck, taken in California in connection with Suit 371-T.)

(xiii, xiv, xv and xvi) Alleged Prior Uses by John M. Kuder and his Companies in California and Florida.

64. John M. Kuder prior to the summer of 1936 operated citrus cannery waste feed mills in Southern California at Anaheim, Los Angeles and Colton, California. The methods utilized at these three feed mills employed no chemicals or reagents. The waste in its natural state was put through a grinder of a sausage mill type thereby reducing the citrus waste to uniform sized pellets which were dried in a direct heat drier. The dried pellets were then put through a hammermill which functioned to beat up or grind the dried product into a meal. This meal was

marketed and sold as "Orange Meal." (See Kuder Deposition at Chicago, May, 1951.)

In the summer of 1936, Kuder arrived in Florida. Utilizing his prior experiences in California he constructed at Lake Alfred, Florida, a citrus waste feed mill with an organization of machinery substantially similar to that installed in his California plants. About January 1, 1937, John M. Kuder placed his Lake Alfred feed mill in operation and thereafter until May, 1937, produced orange meal by a process substantially similar to that previously used by him in California, in which no treating agent was used. (See Deposition of Rector at Savannah, Georgia, February, 1951).

During the summer of 1937, Kuder converted the process of his Lake Alfred plant to one in which lime was used in the treatment of citrus waste. Such process utilized ageing bins and was substantially the process disclosed in the Neal pending application for patent. (Deposition of Kuder at Chicago.)

There is no evidence as to how long after November, 1937, the Kuder feed mill at Lake Alfred, Florida, discontinued the use of the ageing bin process. There is some evidence that late in 1937 and until the Kuder California Companies failed in 1938, lime was used in the treatment of citrus waste, but the evidence is unsatisfactory to prove the process involved. In such process as was used Kuder's plants did not use a process in which a gel was formed. (Kuder Deposition at Chicago.)

(xvii) Alleged Prior Use by Frank E. Burman, at Saginaw, Michigan.

65. Following Frank E. Burman's visit to Atlanta, Georgia, in September, 1936, and the disclosure to him by Emory L. Cocke of the Neal process as set forth in finding 61, he was instructed by Cocke to return to his home in Wisconsin and to proceed to produce dry citrus pulp by the said process. In September, 1936, Burman at Saginaw, Michigan, produced dry citrus pulp using the Neal process in which he added to citrus waste previously sliced by beet

saws, .3% lime predetermined by the weight of the waste, aged the treated mass and pressed it. The ensuing press cake was dried, shipped to Cocke and used by him as advanced sales samples of the product Cocke contemplated manufacturing at his Suni-Citrus Products Co. plant at Haines City, Florida, then in process of construction. (Deposition Burman, Chicago, in Suit No. 371.)

66. Other than such uses as were made by Vincent beginning January 16, 1937, there is no evidence of record showing that prior to January 12, 1939, the use of a process for manufacturing dry, substantially non-bitter, nontoxic citrus pulp cattle feed in which there was added to the citrus waste by color index or any other method, controlled varying amounts of alkaline reagents to neutralize the varying free acids of the waste to form a different or brown colored minutes-stable transient gel or a minutestables transient, syrupy gel, break the gel so formed in the presence of an acidic medium to form a lighter colored or lightbrown liquor and separable pulpy solids as called for by Claims, 1, 2, 7 to 11, incl. of the Reissue patent in suit. Accordingly, none of said alleged prior uses is an anticipation of the invention of the patent in suit, even if accorded an effective date of January 12, 1939.

67. The Vincent Reissue patent 22,865, is valid and infringed.

Alleged Misuse of the Patent in Suit.

68. In 1939, Daniel B. Vincent re-entered the feed brokerage business at Tampa, Florida, and remained so employed until the year 1945. He did not, however, lose interest in the citrus waste processing art. While engaged in the brokerage business his spare time activities centered in devising newer refined processes and in the creation of more suitable machinery designed for use in the processing of citrus waste in accordance with his invention covered by his 944 original patent. He conceived and reduced to practice in December, 1944, an improved process when he designed and put in operation a feed mill for Bruce's Juices, Inc. at Tampa, Florida, capable of embody-

ing the process of his original patent and his improvements thereof. These process improvements were later incorporated in Letters Patent 2,471,363, issued May 24, 1949, on an application therefor filed on November 27, 1945.

69. Between December, 1944 and the summer of 1946, Vincent, individually, installed feed mill machinery of his own design at Bruce's Juices, Inc. as aforesaid, at the Bilgore plant at Clearwater and in the Ploeger-Abbott plant at Leesburg, Florida, and elsewhere. (See answers to interrogatories.)

70. On October 1, 1946, Vincent as majority stockholder, caused to be formed a Florida corporation, named Dan B. Vincent, Inc., which succeeded to Vincent's machinery business, and threafter carried on, under Vincent's guidance, the business of designing, selling and installing machinery adapted to convert citrus cannery waste into a cattle food. The machinery so designed was capable of being used in the practice of the processes of the 944 and 363 Vincent patents. While Vincent's application for patent for his improvements on the process of his 944 patent was pending in the Patent Office, on 21st of March, 1949, he assigned his said improvement invention and the application for patent thereon to Dan B. Vincent, Inc. so that when said patent 363 issued, it was to Dan B. Vincent, Inc., as assignor. From the date of issuance said patent 363, on May 24, 1949, Dan B. Vincent, Inc. has been sole owner of said patent.

71. On August 19, 1949, as majority stockholder Vincent caused to be formed a Florida corporation named Food Processes, Inc. Among the businesses that Food Processes, Inc. was authorized to carry on was the acquisition of and the licensing of patents. On September 14, 1949, by assignment to it by Vincent, Food Processes, Inc. became the sole owner of Reissue Patent 22,865, together with the right to claim and sue for past infringement.

72. Dan B. Vincent, Inc., by arrangement with Food Processes, Inc., appointed the latter its exclusive licensing agent of its patent 363.

73. The licensing policy of Food Processes, Inc. and Dan B. Vincent, Inc. with regard to their respective citrus waste processing patents has been at all times to freely grant to anyone, the right to use either or both of said patented processes under licenses calling for the payment of a reasonable royalty. (T. Vincent, p. 1713.)

74. The business of selling citrus feed mill machinery is highly competitive. (Vol. III, Vincent Tampa Depositions, p. 1139-1140-1141.) Of the 24 feed mills (Same, p. 1140) erected in Florida since January 1, 1937, Daniel B. Vincent and Dan B. Vincent, Inc. have sold nine (9) complete feed mills. The others, fifteen (15) in number have been supplied to citrus feed mill operators by their competitors. (Vol. III, Tampa Deposition of Vincent, p. 1141.)

75. When individual owner of his original patent 944, and later the owner of the Reissue patent in suit, in negotiating for the sale of complete feed mills, designed particularly for the practice of the process or processes of original Vincent patent 944 and Reissue 865, it is not shown that sales contract or contracts entered into between Vincent and purchasers contained therein any improper or illegal provision or agreement with respect to the patents in suit, or any requirement that the purchasers bound themselves in any manner to procure from Vincent replacement parts or supplies for use in connection with the machinery sold or used in connection with the practice of the patented processes of said patents.

76. From the time Food Processes, Inc. became the owner of Reissue Patent No. 22,865, on September 14, 1949, Dan B. Vincent and Dan B. Vincent, Inc. dealt honestly and frankly with its prospective purchasers by advising them that they were not the owners of Reissue patent 865, that the complete feed mill machinery which they considered purchasing, while designed and built specifically for use in connection with the improvement patent 363, would when so used necessarily infringe the broader claims of Reissue patent 865, and such sales when made were entered into with the understanding that a

license under Reissue 865 from Food Processes, Inc. would be necessary. Such sales of complete feed mill machinery by Dan B. Vincent, Inc. aforesaid, were made with the understanding that the purchaser acquired by virtue of the sale an implied license under the improvement patent 363 owned by the vendor. (Vincent Deposition at Tampa, Vol. III, p. 1142, 1913-14.)

77. No patent license agreement has ever been entered into between either of the owners of Reissue patent No. 22,865 or patent No. 2,471,363 requiring the licensee to purchase unpatented machinery units as replacements, or unpatented replacement parts for the machinery first sold or supplies or chemicals useful in practicing the process of such patents. (Vol. III, Vincent Tampa Depositions, p. 1143.)

78. There is no evidence to support the contention that Food Processes, Inc., Dan B. Vincent, Inc., or Daniel B. Vincent, have conspired to use the patent in suit or any other issued patent to force the sale of feed mill machinery. (T. Vincent, p. 1142-1143.)

79. In connection with notices of infringement sent to certain citrus feed mill operators, believed to be infringing patents Reissue 865 and 2,471,363, the following is a typical example:

Law Offices
JOHN R. HIMES

First National Bank Building
TAMPA 2, FLORIDA

October 4, 1949

Vacuum Foods Corporation
Leesburg, Florida

Gentlemen:

Enclosed are copies of U. S. patent Reissue No. 22,865 and U. S. patent No. 2,471,363.

Food Processes, Inc., for which I am attorney, is the owner of the first named patent and is the exclusive licensing agent for Dan B. Vincent, Inc., owner of the second named patent.

You have had due notice of Reissue patent No. 22,865 and I hereby notify you of newly issued patent No. 2,471,363 that you may review the specification and claims of both of these patents with relation to the methods and procedures employed with your feed mill for the manufacture of stock feed from citrus cannery waste. I am sure that you will readily determine that the method you employ in the lime-dewatering treatment of citrus cannery waste follows the teaching of the specification and claims of both patents and results in the infringement of several of the claims of each of them.

My client, therefore, demands that you cease and desist from such infringement until you have secured proper licenses to use the processes disclosed and claimed in said patents. My client is prepared and willing to issue to you a license for your manufacture of citrus pulp feed at a royalty rate of fifty cents per ton for *each* patent.

The above offer is made subject to your acceptance and execution of the enclosed license agreement before the beginning of the coming canning season. If you wish to take advantage of this offer, kindly fill out and sign both copies of the agreement and return them to me. My client will then execute both copies and return one to you.

Please acknowledge receipt of this letter and advise me of your intentions in the matter.

Very truly yours,

(Sgd.) JOHN R. HIMES.

JRH: ep

Encs.

"EXHIBIT A."

CONCLUSIONS OF LAW.

1. The Court has jurisdiction of the subject matter of this suit and the parties thereto.

2. U. S. Letters Patent Reissue No. 22,865 was properly granted and is a valid reissue patent.

3. The novelty of Reissue Patent No. 22,865 is not negatived by the prior art or any prior use and is a valid patent.

4. Suni-Citrus Products Co., plaintiff, has made unauthorized use of a process for the conversion of citrus cannery waste into cattle feed embodying the invention disclosed by Reissue 22,865 and infringes claims 1, 2, 7 to 11, incl. of said patent.

5. Defendants, Daniel B. Vincent, Food Processes, Inc. and Dan B. Vincent, Inc., have not conspired to misuse the patent in suit, and Food Processes, Inc. has not committed any act in contravention of the Sherman and Clayton Act or misused Reissue Patent 22,865.

6. The allegations of plaintiff's complaint as amended for declaratory judgment have not been sustained and the complaint is hereby dismissed with costs, reserving to defendants the right to apply to the Court for an allowance of attorneys fees.

7. Plaintiff has established no intervening rights.

8. By reason of the infringement found, Food Processes, Inc. is entitled to an injunction enjoining Suni-Citrus Products Co., its officers, employees and agents from further infringement of said Reissue patent 22,865.

9. That this cause be referred to a Master to be appointed by the Court to determine the amount of damages, if any, suffered by the owner of Reissue patent 22,865 by reason of plaintiff's infringement thereof.

10. Order in conformity with the foregoing on notice, may be presented in 10 days.

Respectfully submitted,

PRENTICE E. EDRINGTON.

No. 1887-T.

UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA,
TAMPA DIVISION.

FOOD PROCESSES, INC.,
Plaintiff,

vs.

MINUTE MAID CORPORATION,
Defendant.

PLAINTIFF'S SUGGESTED FINDINGS & CONCLUSIONS OF LAW, NO. 1887-T.

Preliminary Statement.

Plaintiff brings this action for infringement of claims 1, 2, 7, 9 and 10 of its United States Letters Patent Reissue 22,865. By its complaint filed February 8, 1950, it asks for damages for past infringement and for injunction to restrain defendant from further infringement.

Defendant by answer denies infringement and alleges that the patent in suit is invalid by reason of infirmities in the proceedings leading to its grant, and that it is anticipated by prior art and prior uses pleaded. By counterclaim defendant seeks a declaratory judgment holding the patent not infringed, was improperly granted, is anticipated and invalid; and that relief should be denied plaintiff by reason of a conspiracy between the owner of the patent, Dan B. Vincent, Inc. and Daniel Boscawen Vincent to misuse the patent in contravention of the Sherman and Clayton Anti-Trust Acts. (15 U. S. C. A. Secs. 1, 2, 14, 15 and 26.)

In reply to the counterclaim, plaintiff denies the invalidity of its patent or that it has misused the patent as alleged.

Defendant pleads no defense of any claimed right to use the patent by implied license or otherwise.

On the pleadings above set forth, proofs have been submitted, the case argued and briefs filed. Upon consideration of the proofs of record the count enters the following findings of fact and conclusions of law—

Findings of Fact.

Findings 1 to 13, inclusive, should be identical to findings 1 to 13, inclusive in the case of Suni-Citrus Products Co. vs. Daniel Boscawen Vincent, et al. No. 1364-T.

Citrus Cannery Waste.

Finding 14 should be identical to finding 14 in the case of Suni-Citrus vs. Vincent, No. 1364-T.

Vincent's Activities.

Findings 15 to 20, inclusive, should be the same as findings 15 to 20, inclusive, in case No. 1364-T.

Citrus Waste in the Presence of Alkaline Materials.

Findings 21 to 29, inclusive, should be identical to findings 21 to 29, inclusive, in case No. 1364-T.

The Patent in Suit.

Findings 30 to 32, inclusive, should be identical to findings 30 to 32, inclusive, in case No. 1364-T.

Acknowledgments of the Vincent Original Patent 944.

Findings 33 and 34 should be the same as findings 33 and 34 in case No. 1364-T.

Business Activities of Defendant.

35. Defendant, Minute Maid Corporation, known by former corporate names firstly as Florida Foods, Inc. and secondly as Vacuum Foods Corporation, (Orlando Deposition, T. Penn, p. 1145) is a corporation operating a citrus

canning plant and citrus waste feed mill at Leesburg, Florida, with its principal office at Plymouth, Florida, both within the jurisdiction of this Court. Early in 1947, (T. Dr. Cotton, p. 351) Daniel B. Vincent, President of Dan B. Vincent, Inc., learned that Minute Maid was in the market to purchase or planned to construct added citrus canning plant facilities. He arranged (T. Vincent, p. 498) for and had Dr. Robert Cotton, Research Director for National Research Corporation, doing research work for defendant in Florida, (T. Cotton, p. 348-350, 363) and Mr. Fox, President of Minute Maid, (T. Cotton, p. 364; T. Vincent, p.) to visit the Bilgore Products, Inc. feed mill at Clearwater, Florida. (T. Cotton, p. 397; T. Vincent, p. 504) This Bilgore feed mill had been constructed by Mr. Vincent, individually, in 1946. (T. Vincent, p. 572). As designed and installed the Bilgore feed mill machinery was especially suited to the conversion of citrus cannery waste into dry citrus pulp cattle feed by the use of methods and processes embodying the invention of the Reissue Patent in suit and improvement processes, the invention of Vincent disclosed in an application for patent then pending in the Patent Office. (T. Vincent, p. 567) On their visit to the Bilgore feed mill, Mr. Vincent demonstrated to Dr. Cotton and Mr. Fox the mill machinery and explained the process therein employed. (T. Cotton, p. 366, 367; T. Vincent, p. 505). Dr. Cotton, an experienced Research Chemist, paid particularly attention to the steps in the process by which a different colored or brownish colored gel was formed on and in the waste by applying to the waste controlled varying amounts of lime regulated by the color change brought about by the lime's reaction on waste and by hand grab tests of the treated waste, thereafter the breaking of the gel in a short space of time in the presence of an acidic medium and the change in the character of the waste to form pulpy pressable solids and separable watery liquor. (T. Dr. Cotton, pp. 357, 358, 368, 371, 372, 381, 382; T. Vincent, p. 505-510; 579-586).

36. Thereafter, on or about February 12, 1947, Minute Maid had Mr. Penn, its Chief Engineer, accompany Mr.

Vincent on a visit to the Bilgore plant, (T. Penn, Orlando, p. 1099) at which time Mr. Vincent demonstrated his entire process in use in the Bilgore plant to Mr. Penn and showed him as part thereof the formation of a gel by addition to the waste of controlled varying amounts of lime regulated by the color change brought about by the lime's reaction on the waste when added thereto. (T. Penn, Orlando, p. ; T. Vincent, p. 505-510).

37. Following this, Mr. Penn made a written report to defendant's President, its Vice President and to Dr. Cotton, the portions thereof material to this case being as follows:

(Penn Exhibit 3, Orlando Depositions)

Dept: Engineering
February 18, 1947

"SUBJECT: CITRUS FEED MILL AND MOLASSES PLANT INSTALLATION—DAN B. VINCENT, INC.
TAMPA, FLA.

(Penn Ex. 3)

"The writer made a trip to Tampa February 12th for the purpose of observing in operation recently developed feed mill and molasses plant installations which had been built and installed by American Machinery Corporation to the designs of Mr. Vincent.

"Complete layout plans and elevations on both the feed mill and molasses plant are available in the engineering department files. The feed mill equipment is installed in a space measuring 40′ x 80′ with a maximum required head room of approximately 25′ at several points in the process. The molasses plant occupied a space of approximately 25′ x 35′ with about the same amount of head room required as in the case of the feed mill.

"FEED MILL. The various pieces of equipment included in this installation are as follows:

"Peel bin 15′ x 27′
Peel bin conveyor

Elevator to shredder
BF Gump dry chemical feeder (lime)
Shredder (Vincents own design)
Mixing trough
Screen
Holding conveyor
Elevator to press
Zenith vertical screw type press (Johnson & Church Co., Saginaw, Mich.)
Elevator to dryer
Furnace
Dryer
Expansion chamber
Exhaust fan
Elevator
Cooling reel
Dust collector
Sacker

"The only really novel feature of this layout was the dryer which was of the direct fired type. The furnace consisted of a brick lined cylindrical shell jacketed with a steel shell which left an annular air space. The hot air was produced by three Johnston oil burners furnished with sufficient air for combustion. The annular space around the furnace served to admit additional air through an adjustable louvre. The dryer itself was a cylindrical rotary drum built with three passes of which the 1st pass was approximately 40" in diameter and the 2nd and 3rd passes consisted of annular spaces separated by 14". The operation of the furnace was automatically controlled by a thermostat with the sensitive element installed at the end of the intermediate pass. All inlets and exits in the dryer were furnished with seals of various types in such a manner that the exhaust fan working on the expansion chamber was able to maintain a slight vacuum of about 1½" of water. A sample of the product was obtained and has been turned over

to Dr. Roy for examination and analysis if deemed advisable.

"There was no evidence of scorching of the feed and there was a production of a minimum amount of fines. Incidentally these fines were recovered for the most part from the dust collector attached to the cooling reel. Bilgore Products, Inc., which was using this installation was recovering the fines and marketing them as a lawn loam (to improve moisture retention) at $14.00 per ton. The feed was being sold at $42.50 per ton and according to the parties talked to, was of a superior quality to any other in the State. It did have a light colored appearance and a definitely lighter bulk density than the average citrus feed which I have seen.

* * * * *

"The following cost figures furnished to me today may be of interest.

"*Feed Mill* (1945-46 season) costs per ton of feed having 8% moisture.

"Fuel Oil—40 gallons @ .05 per gallon (In pencil: 90% $2.00 off. based on 72% moisture to dryer. Vincent claims 60% from Zenith.) In pencil: low use 2.40)	
Labor—2 @ .75 per hour 3@ .60 per hour	2.20
Power—.02 per kw hr	1.35
Lime costs	.50
Miscellaneous	.50
Bags @ .23 ea. (In pencil 100#/ bag=20 bags)	4.60
Florida Tax Tags @ .30 per ton	.30
	$11.45

Present selling price $42.50 per ton. (In pencil) Raised to $51.00/T. approx. 5/1/47)

* * * * *

"Mr. Cobb of American Machinery has promised to give me a detailed cost estimate covering both a feed mill and molasses plant. I have also requested Mr. Vincent to furnish me with a detail flow sheet of the process."

38. Following Dr. Cotton's visit to the Bilgore Feed Mill he visited the Ploeger-Abbott Citrus Waste Feed Mill at Leesburg, Florida, also designed and installed by Vincent in 1945-1946 (T. Vincent, p. 498, 323; Affidavit Quint in Pleadings) using duplicate citrus waste feed mill machinery and the same processes as those employed at the Bilgore plant. (T. Vincent, p. 304-384, 574). In the Ploeger-Abbott plant Dr. Cotton observed the process employed, saw the formation of a gel by the adding of controlled varying amounts of lime to the waste regulated by the color changes brought about by the chemical reaction of the lime when added to the waste, and hand grab tests of the treated waste, the breaking of the gel and change of the waste into a two phase product the same as he had observed in the Bilgore plant. (T. Cotton, p. 471-479, 485)

39. January 1, 1949, Minute Maid acquired the above referred to Ploeger-Abbott citrus canning plant at Leesburg, including the citrus feed mill previously installed therein by Mr. Vincent, which had, up to the date of sale, operated under the Ploeger-Abbott management and utilized in the production of dry citrus pulp the Vincent installed and taught process. (Affidavit Carter Quint, in Pleadings filed January 11, 1951).

40. The Vincent installed Ploeger-Abbott citrus waste feed mill acquired by Minute Maid had an hourly production capacity, more or less, of 25 one hundred pound bags of dry citrus pulp and, on a 24 hour operational basis, could produce, more or less, 600 bags of feed equal to 30 tons. (T.

41. January 4, 1949, Minute Maid Corporation, then named Vacuum Foods Corporation, and Dan B. Vincent, Inc., a corporation of which Daniel B. Vincent was President, and majority stockholder, entered into a written contract (Vincent Ex. 71) pursuant to which Dan B. Vincent, Inc. supplied and installed in the newly acquired Minute Maid citrus feed mill at Leesburg, Florida, certain new machinery units and alterations to the existing feed mill machinery (T. Vincent, p. 518) calculated, when completed and put in operation, to double the feed mills' citrus feed production capacity. (T. Quint, Orlando, p. 1589). Accordingly, in February, 1949, (T. Vincent, p. 520; Kimball, Orlando, p.) the defendant's feed mill as a result of the increased capacity supplied by the machinery installed by Dan B. Vincent, Inc., had an hourly production rate of 50-100 pound bags of dry citrus pulp cattle feed or 1200 bags,—equal to 60 tons—during each 24 hour day of operation. (T. Vincent, p. 519).

42. In placing defendant's augmented feed mill in operation during February 1949, (Deposition Kimball, Orlando, p. 477) Daniel B. Vincent as President of Dan B. Vincent, Inc., explained in detail to and taught defendant's feed mill operator, Wm. Miller, and maintenance foreman, Don Kimball, his color method and process for converting citrus cannery waste into dry citrus pulp cattle feed, such as he had taught and had been used in the Bilgore plant at Clearwater and in the Ploeger-Abbott plant prior to its acquisition by Minute Maid. (T. Vincent, p. 520; T. Kimball, p. 404, 405, 474). The teachings imparted to defendant's employees followed those contained in an operation manual a copy of which Dan B. Vincent, Inc. gave at the time to Mr. Carter Quint, head of the defendant's By-Products Sales Department, charged with the sale of citrus cattle feed. (T. Vincent, p. 523) Mr. Quint formerly with Ploeger-Abbott Company had received instructions from Vincent, was given copies of the instruction manual, (T. Vincent, p. 527; Vincent Ex. 75) and was informed and competent to carry out the Vincent process. (T. Vincent, p. 333).

The aforementioned operational manual was in mimeograph form. (Vincent Ex. 80) It was prepared by Dan B. Vincent, Inc. to be furnished to purchasers of its complete citrus feed mills to enable such purchasers to operate their said feed mills in accordance with the teachings of the Reissue patent in suit provided they obtained a license therefor from Dan B. Vincent the then owner of said patent. (T. Vincent, p. 1583-98) One of these operation manuals, in evidence as Vincent Exhibit 80, is, by reference, made a part of this finding.

43. May 25, 1949, William Middlebrooks, Minute Maid plant superintendent, on behalf of defendant wrote a letter to Dan B. Vincent, Inc. (Vincent Ex. 73) in which it was stated that the instruction manual previously given Mr. Quint had been misplaced and requesting that three or four new copies be furnished. As requested, Dan B. Vincent, Inc. by its letter dated May 28, 1949, forwarded and supplied the defendant with four additional copies of the above referred to mimeographed instruction manual (T. Vincent, pp. 524, 525; Vincent Ex. 74) similar to Vincent Ex. 80. One of these four (4) copies furnished defendant found its way into the hands of defendant's maintenance foreman, Don Kimball, who read it and used it, and the oral instructions previously given him by Dan B. Vincent, Inc., in carrying out the process described therein in the operation of defendant's feed mill. (Deposition Kimball, Orlando, p. 480, 486; Kimball Cross-Exhibit 1).

44. The operational manual (Vincent Ex. 80), entitled "Description of Operation of Vincent's Citrus Feed Processing System Using Process Described in Vincent U. S. Patent No. Re. 22865", contained the following:

* * * * *

"The plant is set up as a separate and distinct unit from the canning plant. The purpose of the peel bin is to substantially eliminate dependence of one plant on the operation of the other. Since this waste is not a uniform product, consisting at times of orange,

grapefruit, cull whole fruit, or a mixture of these, it is frequently necessary to change the rate of flow to the processing machinery.

"The screw conveyor in this bin is more than simply a conveying system. It is actually a part of the mechanical scheme of the feed mill. This conveyor is driven by a variable speed drive, engineered to feed a desired and constant amount of waste to the processing machinery.

"In connection with this feeding bin screw is a variable speed lime machine which can be regulated to deliver desired amounts of lime to the waste, depending on the condition and requirement of the particular waste coming from the peel bin. This lime is washed from under the lime chemical feeder by a flow of water and falls with the cannery waste into a water trap.

"This device serves several purposes. First, the lime is thoroughly mixed with the water and the peel and all surplus free acids are neutralized. Second, any foreign matter heavier than water will sink to the bottom of the trap and can be removed at will. Third, a system of paddles passing just under the surface of the water carries with it the cannery waste together with proper amount of water and lime for processing and delivers this mixture into a shredding machine. It is necessary that the operator or his assistant see that the water level in the metal trap is maintained at about 1 inch below the top of the paddles, in order to insure proper operation and separation of the foreign matter.

"In the shredder the waste is cut into proper particle sizes. In so doing, the cells of the peel are severed and new citric acid is released, together with some of the bitter glucosides and other organic compounds. This shredded waste then is rapidly mixed in a mixing trough to insure a complete neutralization of the surplus lime and of the newly released citric

acids and glucosides. The operator can observe this reaction by the formation of an apparent gel, a slight hardening when the material is felt and a change of color towards a brownish yellow. This condition breaks down somewhat at the end of the mixing conveyor; and, as the material is falling from it, it takes on an appearance of separating apart and a change of color to a lighter brown. This is the ideal operating condition, for in the reaction conveyor there is a continuation of the reaction, which causes a complete collapse of the gel to a watery condition and easily pressable, spongy solids. As this material falls from the reaction conveyor, the liquids can easily be expressed by hand, leaving a white spongy solid and a light brown watery liquid.

* * * * *

"A particularly important feature of the operation of this process is to properly understand the reason for and manner of adding lime to the citrus material. This material, when ground, if not treated chemically, is a slimy mess from which it is practically impossible to squeeze any water. Lime is added for the purpose of neutralizing free acids, changing the bitter flavors (glucosides) to soluble compounds and breaking the slimy liquids to watery liquids which can be pressed from the spongy, pulpy solids. To accomplish this, it is necessary to add the lime in such controlled amounts that the free acids and the lime, when they come in contact, will neutralize each other and result in a substantially neutral condition. This is indicated by a color change in the material when the lime is added and varies somewhat, depending on the kind and condition of fruit that is being processed. It takes a little experience on the part of the operator to become familiar with these color changes. The best plan is that he watch the color at the point where the lime is entering the material. Feel the material from the paddles of the mixing trough and watch the con-

dition and color of the material as it passes from the reaction conveyor. After a few days operation, a good liming man can stand off from the machinery and by the appearance of the material at any of these positions, know whether or not he need make a change in the quantity of lime being fed to the process." * * *

* * * * *

45. Following the title of the operation manual there appears the following:

"This information is furnished with understanding that you are to secure a standard license under the above Patent as soon as present court patent pool proceedings have been settled."

The "patent pool proceedings" mentioned above was a suit, No. 1163-T, of the docket of this Court in which Suni-Citrus Products Co. sought a judgment against Daniel B. Vincent, owner of original patent 944, the State of Florida, owners of the Neal Patent application, and others, declaring illegal and in violation of the Anti Trust Laws, a contemplated trust agreement calling for the pooling of the Vincent original patent, the invention of Neal covered by his application pending in the Patent Office, and the owners of the Cole & Hall patent, and others. In this Court this contemplated pooling of patents trust agreement, which by then included the Reissue patent in suit, was declared not contrary to law. (See decision Judge de Vane, 72 F. Supp. 740). On appeal the Court of Appeals, Fifth Circuit, on November 19, 1948, dismissed the appeal holding that Suni-Citrus' action had been filed prematurely. (170 F. (2d) 850).

46. During the pendency of this case in this Court the Reissue patent in suit, when granted April 8, 1947, was substituted by Vincent for his surrendered patent 944, and in this manner the reissue became a part of the planned patent pool. After the final disposition of the case Vincent withdrew from the patent pool arrangement. From April 8, 1947 to September 14, 1949, Daniel B. Vincent,

individually was the owner of the reissue patent and by reason of his commitments to the above mentioned pool he was not free during such period to grant any license under said reissue patent.

47. After the commencement of the operation of its feed mill, as installed first by Dan B. Vincent for Ploeger-Abbot and later enlarged by Dan B. Vincent, Inc., for defendant, to a capacity of 1200 bags a day, and known as the North Mill, it was found by defendant that the capacity of its augmented North feed mill did not suffice to handle its available output of citrus cannery waste, and that an additional mill would be required. In planning the acquisition of the machinery for the new mill, defendant requested competitive bids. Dan B. Vincent, Inc. refused to participate in bidding. (T. Vincent, p. 530; T. Litsinger, Orlando, p. 2575-76, 2587; Penn, p. 1111).

48. In may, 1949, Dan B. Vincent, Inc. learned of defendant's contemplated plans. (T. Vincent, p. 529-533). Whereupon, Daniel B. Vincent, then sole owner of the patent in suit, promptly visited defendant's office in Plymouth, Florida, and protested to defendant's officers, their proposed action. He left with them a copy of the patent in suit and notified them that the use of the process of the patent in suit in its North Mill was unauthorized and if they carried out its plans, the use in the new contemplated feed mill of the process in use in its North Mill would constitute an infringement of the patent in suit.

49. Defendant disregarded Mr. Vincent's protests and notices. (See Vincent Ex. 77). Following the close of the citrus season in June, 1949 and before the commencement of the new citrus season in November, 1949, defendant procured from feed mill machinery suppliers other than Daniel B. Vincent or Dan B. Vincent, Inc., a complete citrus waste feed mill in all respects a duplicate (T. Penn, Orlando, p. 1087) or "chinese copy" of its existing Vincent installed North Mill. (T. Vincent, p. 538-541; Vincent Ex. 78; Vincent, p. 543; Litsinger, Orlando, p. 2521) When completed, and since, this new feed mill has been

known as the "South Mill." As constituted and operated the new South Mill resulted in doubling the total production capacity of its former feed mill at Leesburg. Accordingly, defendant's feed mill, by virtue of the addition of the South Mill therein, was increased from its previous daily capacity of 1200 bags of dry citrus pulp cattle feed per day to a total of 2400 bags a day. (T. Vincent, p. 587).

50. Certain of the feed mill machinery units for its South Mill were acquired by defendant from Olson Corporation of Beresford, Florida. These units consisted of two shredders, a quick mixer, a delay conveyor, two chain paddle elevators—one to convey the green treated peel to the shredders and the other to convey the treated changed two phase pulp from the delay conveyor to a press, 2 dryer expansion chambers, and a large size cooling reel of capacity equal to two similar but smaller cooling reels installed in the North Mill. (Orlando Deposition, T. Litsinger, p. 2662; T. Vincent, p. 1230-33). The above enumerated machinery units supplied defendant by Olson Corporation did not collectively constitute a commercially operable complete citrus waste feed mill useful for the processing of citrus waste and the manufacture of a dry food product. (Orlando Depositions, T. Litsinger, p. 2593, 2640; Penn, p. 1136; T. Timlin, p. 2836, 2844).

51. All other machinery units, including all electric motors and drives, which when added to those supplied by Olson Corporation would thus constitute a complete feed mill, were procured in the open market and installed by defendant. These items consisted of—

A peel storage bin,
Variable speed drive screw conveyor to convey the green citrus waste to the shredder elevator (Penn Cross Ex. 24; T. Litsinger, p. 2595-6),
A liming machine with varying control mechanism,
2 furnaces to supply direct heat to 2 driers,
2 rotary driers, without expansion chambers,
Automatic weighing sacking machine,
Miscellaneous conveyors,

All electric power motors for driving all units including those supplied by Olson Corp., and
All labor for installation. (Orlando Depositions, T. Litsinger, p. 2594-2600.)

52. The cost of defendant's entire new South Mill was approximately $99,000.00 of which approximately $17,900.00 represents the cost of the machinery units supplied by Olsen Corporation. (Orlando Depositions, T. Litsinger, p. 2642, 3003, 30-34-3038.)

53. Prior to the time Olsen Corporation bid upon and was awarded a purchase order for the units it supplied to defendant, Olsen Corporation had constructed for Vincent, Inc. certain citrus feed mill mechanical units in accordance with detailed drawings supplied Olsen by Dan B. Vincent, Inc. (T. Vincent, p. ____) depicting the details of individual units created and designed by Dan B. Vincent, Inc. Under an agreement between Olsen and Vincent, Inc. (T. Vincent, p. 1233-41) upon payment to Vincent, Inc. of an agreed percentage to reimburse it for its engineering expense involved in creating the units and making detailed drawings thereof, Olsen was authorized to sell such individual citrus waste feed mill machinery units to anyone desiring to purchase same, but Olsen was unauthorized to bid upon and supply a complete citrus waste feed mill (T. Timlin, p. 2823) which could be so operated as to make use of the processes of the Reissue patent in suit or the processes of an improvement invention of Vincent's owned by Dan B. Vincent, Inc. for which it had patent applied for and pending. (T. Vincent, p. 1703; Orlando Dep., T. Timlin, p. 2785.)

54. When Olsen Corporation received its order as aforesaid from defendant, under its arrangement with Dan B. Vincent, Inc., Olsen received from Vincent, Inc. its detailed drawings covering the individual units which Olsen Corporation had agreed to supply defendant, which were used by Olsen to fabricate the units it had agreed to supply defendant. (T. Timlin, p. 2804.)

55. In connection with the installation of its new South Mill, defendant altered one of its two Zenith screw presses which had been originally installed in the North Mill by equipping it with a new hydraulic bottom which resulted in doubling the capacity of this press. The second press had been installed complete with hydraulic bottom by Vincent, Inc. in February, 1949. As thus altered one of the original North Mill presses was moved to and installed by defendant in its South Mill and was used in connection with that organization of machinery. The other press remaining in its original relative position in defendant's North Mill.

The Alleged Infringing Process.

(Vincent T. 543, et seq.; Vincent Ex. 78; T. Smith, p. 1941, et seq.; T. Dr. Roy, p. 263, 266; Minute Maid Ex. 29; T. Hughes, p. 1905 et seq. and 1966 et seq.)

56. Within six years prior to the date of the commencement of this suit, without the authority or consent of plaintiff (T. Vincent, p. 608-609, 695), at its citrus pulp feed mill at Leesburg, Florida, within the jurisdiction of this Court, defendant, Minute Maid Corporation, in the use of its North and South feed mills has converted citrus cannery waste into a cattle food and in so doing has used the following methods or processes:

(a) The Mechanical Movement of the Waste and Treated Material. (Orlando T. Schwarz, p. 2416 et seq.; Vincent T. 543, et seq.; Vincent Ex. 78; T. Smith, p. 1941, et seq.; T. Dr. Roy, p. 263, 266; Minute Maid Ex. 29; T. Hughes, p. 1905 & 1966, et seq.

57. In each of defendant's North and South Mills at Leesburg, Florida, in every material respect alike in construction, mode of operation and results obtained (T. Vincent, p. ____; Orlando Dep., T. Penn, 1203, 1204; T. Litsinger, p. 2621) slimy and unpressable citrus cannery waste is received and stored in a green peel storage bin. By gravity the bin stored green peel, rag, seed and whole

culled fruit discharges into a screw conveyor functioning to carry the waste to a metal sump forming the lower end of a chain paddle inclined elevator serving to convey the waste to a pair of shredders.

58. Installed above this sump is a Gump dry powdered lime feeder incorporating a manually operated mechanism by which an amount of lime, depending upon the operator's setting thereof, will discharge from the feeder's hopper into the sump below. At the lime feeder by means of suitable piping, press water is discharged into the sump in such manner that the preset amount of lime from the feeder falls upon the stream of press water thus forming as the lime and press water reached the sump a mildly alkaline aqueous solution or limed press water bath. (Orlando Dep., T. Ingols, p. 4101; T. Vincent, p. __; T. Penn, p. 1088-89.)

59. The crosswise disposed paddles of the elevator traveling in the sump, on their way to the shredders, churn the limed press water and the waste therein resulting in the citrus waste becoming thoroughly coated, inside and out and on all exposed portions thereof, with the mildly alkaline press waters.

60. The coated waste, together with some of the alkaline sump liquids, are carried by the paddles of the elevator to the entrances of a pair of shredders in which the treated waste is quickly shredded in the course of which the newly cut and exposed edges of the waste is further coated by the alkaline liquids in the waste in the shredders.

61. The lime treated shredded waste falls from the shredders into a relatively short quick mixer or pug mill which functions to rapidly and further thoroughly mix the lime in suspension or dissolved in the liquids of the waste with the shredded waste. After a 2-minute travel in the quick mixer the shredded treated waste discharges by gravity into a delay or reaction conveyor.

62. The delay conveyor is 33 ft. long. Its bottom is arcuate shaped with vertical sides and open top. Along

certain areas or sections of the top expanded metal gratings have been installed which do not interfere with visibility of the treated mass therein. Along the conveyor's longitudinal axis a shaft, to which is welded a spiral cut-flight screw, revolves at the rate of about 10 R. P. M. The turning of the cut flight screw imparts to the treated waste a gentle blending and delayed mixing action slowly propelling the treated mass from entrance to exit in from six to seven minutes.

63. From the reaction conveyor the treated waste mass, in a changed state comprising pressable pulpy solids and separable liquids, falls into the lower end of a chain-paddle conveyor by which it is carried and delivered into the top of a screw press. In the inclined bottom near the lower end of this elevator free liquid from the material drains out by way of a perforated screen.

64. The drained pulp passes through the screw press in about one minute and emerges therefrom as 70% moisture content press cake. The portion of the liquids draining by way of the elevator screen and that resulting from the pressing operation, are known as press waters. Some of this press water is pumped and recycled to the shredder elevator sump to be re-limed, the balance being utilized for concentration in the production of citrus molasses.

65. The press is equipped with resistor bars through which steam is applied to lubricate the pulp and aid its smoother passage through the press.

66. From the press the press cake is conveyed to sub-atmospheric revolving driers from which it passes through an expansion chamber and emerges therefrom in the form of hot, partially dried citrus pulp. The hot, dry pulp is then put through a cooling reel where fines, dust and more water are removed in the cooling step. From the cooling reel the cooled dry citrus feed, having a moisture content of 10% or less, is automatically weighed and bagged. The entire time consumed in the above described operation from liming to bagging is twenty (20) minutes.

The Action of the Limed Press Water Added to the Citrus Waste. (Orlando, T. Schwarz, p. 2384- .)

67. The action of the lime on the slimy citrus waste, beginning the moment the waste is subjected to the lime press water bath in the shredder elevator sump, brings about a progressive lowering of the acidic state of the free acid juices in the waste accompanied by a change in color from the waste's natural greenish-yellow color to a different brownish-yellow color. At the same time as it neutralizes the free acids in the waste, the lime reacts to render soluble the glucosides, some of the pectins and other organic chemical constituents in the waste, including those imparting a bitter flavor to the waste. As the lime treated waste falls from the shredders into the quick mixer the lime has not had time to fully react so that at this point the shredded treated mass is still slimy. Two minutes later as it reaches the exit end of the quick mixer the liquids in the treated mass have become more viscous (Orlando Depositions, T. Schwarz, p. 2370-1) and in this state is in the form of a brownish colored gel having at times a consistency of a syrupy and at others more or less rigidity, so that when the mass is picked up and squeezed in the hands the gel exudes from between the fingers and sticks thereto. The colored gel as observed on and about the shredded peel particles glistens and is alkaline, registering a pH of about 9 to 11. (Orlando, T. Schwarz, p. 2373). Occluded within the gel structure are most of the liquids formerly in the shredded mass.

68. In the entrance end of the reaction conveyor the viscosity of the gel in the jelled mass is observable as the mass resists the action of the conveyor screw. As the jelled mass proceeds down the reaction conveyor and reaches a point about midway the distance between its entrance and exit ends, residual acids not theretofore affected by the lime are released progressively from within the shredded waste particles. This acidic medium (Orlando Depositions, T. Schwarz, p. 2359-60) acts to gradually lower the alkalinity of the mass (Orlando, T. Schwarz, p. 2375) so that as the mass approaches a balance between alkalinity and

acidity the gel breaks, and the water occluded therein is released. By the time the treated material in the delay conveyor reaches its exit end, the original unpressable slimy citrus waste, by reason of the reactions above stated, has so changed in character and color that it is at this point a two phased product comprising whitish pressable pulpy solids and light tan or straw colored separable watery liquid (Orlando T. Schwarz, p. 2371-2, 2377). Following the change of the waste from its original slimy unpressable condition to its new two-phase condition, the free liquid therein is drained, the drained pulp pressed and dried as heretofore described.

69. In the process described above defendant makes no attempt to ascertain, and, therefore, does not know, the acidic or other chemical contents of its citrus waste. (Orlando, T. Schwarz, p. 2372-2374). It determines, controls and varies the amount of lime necessary to neutralize the varying acidic content of the free juices in its waste by manual setting of the proportioning mechanism of its lime feeder so that it delivers to the citrus waste the exact amount of lime desired to form the gel. The setting of the proportioning device of the liming machine to deliver the required amount of lime, is determined by means of defendant's observation of the condition and color of the waste. Such amount of lime as it adds in varied amounts brings about the formation of the gel in such alkaline ranges that it may later be broken in the presence of an acidic medium, that is, the residual acids later released from the peel particles.

70. In the process used by defendant, in determining the proper setting of its lime feeder so as to control and vary the lime required to treat the waste as aforesaid, defendant also makes use of grab tests of the shredded treated mass and from it observes the point when the amount of lime added forms the gel. Also, defendant further controls its lime feeder by observing the viscosity of the shredded treated mass resisting the action of the quick mixer paddles and delay conveyor screw and the condition of the pressable two-phase pulp as it exits from the delay conveyor.

71. Defendant's feed mill operators from their experiences in treating the waste and with the appearance and feel of properly treated waste in the mixing and conveying systems as related to its press cake, can, to some extent, adjust the lime proportioning machine to affect a slight correction in the consistency of the press cake when the type of peel being treated is fairly constant in kind and composition, but such control nevertheless results in the adding to the waste the amount of lime required to form the gel in such alkaline ranges that it thereafter breaks in the presence of the acidic medium.

72. In the process used by defendant it prepares a substantially non-bitter and non-toxic edible food product by the steps of adding to citrus cannery waste controlled varying amounts of lime, (calcium hydroxide) an alkaline compound; it subjects the treated waste to a shredding operation and forms a different and brownish colored minutes-stable transient gel and a minutes-stable transient, syrupy, gel; it breaks such gels in the presence of an acidic medium to form whitish or light colored pulpy solids and separable liquids. By its draining, pressing and drying steps defendant brings about a separation of the pulpy solids and the liquids therein.

73. The step of adding the lime to the waste prior to shredding, rather than after shredding as required by claim 2 of the patent in suit, brings about no different chemical reaction in the formation of the gel, nor produces a different result.

74. Accordingly, defendant's processes above described embody the invention of the Vincent reissue patent in suit and in all respects respond to the terminology of claims 1, 2, 7, 9 and 10 of Reissue Patent No. 22,865 and are infringements thereof.

Alleged Prior Art.

Findings 75 to 82, inclusive, are the same as findings 44 to 51, inclusive, under the heading "Prior Art" set out in full in the suggested findings in case No. 1364-T.

Applications Co-pending With Vincent's Application Filed January 12, 1939.

Findings 83 to 85, inclusive, should be the same as findings 52 to 54, inclusive, in Suit No. 1364-T.

Alleged Prior Uses.

Findings herein Nos. 86 to 98, inclusive, are the same as findings 55 to 67, inclusive, under the heading of "Prior Uses" set out in full in the suggested findings in Case No. 1364-T.

99. No evidence of record shows that prior to January 16, 1937, the date Vincent conceived and reduced to practice the invention disclosed and claimed in original patent 944, the use of a process for manufacturing dry citrus pulp cattle feed out of citrus cannery waste in which there was added to the waste by color index or by any other means controlled varying amounts of alkaline reagents to neutralize the varying free acids of the waste to form a different or brown colored minutes-stable transient gel or a minutes-stable transient, syrupy, gel, breaking the gel in the presence of an acidic medium to form a lighter or light brown colored watery liquor and separable solids as called for by Claims 1, 2, 7, 9 and 10 of the Reissue patent in suit. Accordingly, none of said alleged prior uses is an anticipation of the invention of the patent in suit. This is so, even if the patent be accorded an effective date as of January 12, 1939, the date of the filing of the application maturing as U. S. Patent 944.

100. Reissue patent No. 22,865 is valid and infringed.

Alleged Misuse of the Patent in Suit.

Findings 101 to 112, inclusive, are the same as findings 68 to 79, inclusive, under the heading of "Alleged Misuse of the Patent in Suit" in the suggested findings in Case No. 1364-T.

CONCLUSIONS OF LAW.

1. The Court has jurisdiction of the subject matter of this suit and of the parties thereto.

2. United States Letters Patent Reissue No. 22,865, was properly issued and validly granted.

3. United States Letters Patent Reissue No. 22,865, is not anticipated by the prior art or by any prior use and is, therefore, a valid patent.

4. Minute Maid Corporation, defendant, has made unauthorized use of processes embodying the invention disclosed by said Reissue patent 22,865 which infringes claims 1, 2, 7, 9 and 10 thereof.

5. Plaintiffs, Food Processes, Inc., Daniel B. Vincent and Dan B. Vincent, Inc. have not conspired to misuse the patent in suit and the owner of said patent, Food Processes, Inc., in the enjoyment of its said use thereof, has committed no act in contravention of the Sherman and Clayton Acts or in any manner unlawfully misused said Reissue Patent No. 22,865.

6. The allegations of defendant's counterclaim have not been sustained and the prayer for a declaratory judgment is hereby dismissed with costs, reserving to plaintiff in the main action and under its counterclaim the right in due course to apply to the Court for an allowance of attorney's fees.

7. By reason of the infringement found, Food Processes, Inc. is entitled to an injunction enjoining Minute Maid Corporation, its officers, employees and agents from further infringement of said Reissue patent No. 22,865.

8. This case be, and the same is, referred to a Master to be appointed by the Court to determine the amount of damages, if any, suffered by the owner of Reissue patent No. 22,865 by reason of defendant's infringement thereof.

9. Decree in conformity with the foregoing, on notice, may be presented in 10 days.

Respectfully submitted,

PRENTICE E. EDRINGTON.

No. 1888-T.

UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF FLORIDA,
TAMPA DIVISION.

DAN B. VINCENT, INC.,
Plaintiff,

vs.

MINUTE-MAID CORPORATION,
Defendant.

PLAINTIFF'S SUGGESTED FINDINGS & CONCLUSIONS OF LAW, NO. 1888-T.

Preliminary Statement.

Plaintiff, a Florida corporation, (Vincent Ex. 8) with its offices in Tampa, Florida, as owner of U. S. Patent No. 2,471,363, granted May 24, 1949, on an application therefor filed November 27, 1945, sues defendant, a corporation, and alleges infringement of claims 1 to 3 and 5 to 13, inclusive, thereof at Leesburg, Florida, within the Court's jurisdiction.

Answering defendant denies the infringement, and sets up defenses of invalidity of the patent in suit as a result of its claimed anticipation by pleaded prior art and prior public uses. In connection with its answer defendant counterclaims that plaintiff in concert with its President, Daniel B. Vincent, and Food Processes, Inc., of which Daniel B. Vincent is also President, have conspired to misuse the patent in suit and that the owner thereof, plaintiff, has thus used the patent in violation of the Sherman and Clayton Anti-Trust Acts (15 U. S. C. A., Secs. 1, 2, 14, 15 and 26). Defendant prays for declaratory judgment holding that it does not infringe; the patent in suit is invalid; the patent has been misused contrary to law and for an injunction restraining plaintiff from molesting or suing defendant with respect to said patent.

On the pleadings above set forth, proofs have been submitted, the case argued and briefs filed. Upon consideration of the proofs of record, the Court enters the following findings of fact and conclusions of law.

Findings of Fact.

1. Daniel Boscawen Vincent filed his application for patent Serial No. 631,072, in the United States Patent Office on November 27, 1945. (Minute Maid Ex. 4, Patent 363) During the course of the prosecution thereof, on March 21, 1949, the applicant transferred and assigned all of his right, title and interest in and to his said invention and patent application therefor to Dan B. Vincent, Inc., plaintiff herein. (Vincent Ex. 10) The said assignment, recorded in Patent Office Liber O-219, folio 113 on March 23, 1949, in evidence as Vincent Ex. 10, is, by reference, made a part of this finding.

2. May 24, 1949, the Patent Office issued to Daniel Boscawen Vincent, assignor to Dan B. Vincent, Inc., a corporation of Tampa, Florida, United States Letters Patent No. 2,471,363, the patent in suit, entitled "Process of Making Food Product." A photostatic copy of the grant, to which is attached a soft copy of the patent, in evidence as Vincent Ex. 37, is, by reference, made a part of this finding.

3. From the date of the grant of the patent in suit Dan B. Vincent, Inc. has always been the sole owner thereof.

Citrus Cannery Waste.

4. Finding 4 should be the same as stated in finding 14, entitled "Citrus Cannery Waste" in Case No. 1364-T.

Citrus Waste in the Presence of Alkaline Materials.

5-17. Suggested findings 5 to 13, incl., herein should be the same as stated in suggested findings 21, 22, 23, 24, 25, 26, 27, 28 and 29 under heading "Citrus Waste in the Presence of Alkaline Materials" in Case No. 1364-T.

The Patent in Suit (Vincent Ex. 37).

14. The Vincent patent in suit relates to an alleged improvement in prior existing processes for the conversion of citrus cannery waste into a cattle food whereby a superior food product may be produced.

The specification of the patent states:

> "The primary object of the present invention is to provide a simple and efficient method for the progressive and uninterrupted treatment of citrus fruit waste in the preparation of an improved stock feed, and the invention aims generally to improve the method described and claimed in my prior Patent No. 2,215,944, granted September 24, 1940." (Vincent Ex. 37, Col. 1, lines 1 to 8)

A further object of the invention of the patent in suit is to insure the correct chemical and physical treatment of citrus waste for desired periods of time to yield a uniform, spongy, shredded cattle feed of light weight, great bulk, bright color, and high water absorbency, with a minimum of hard pieces, fine particles, and dust. (Vincent, Ex. 37, Col. 1, lines 13 to 22).

15. Referring to his earlier patent No. 2,215,944, (later reissued as Reissue No. 22,865, and involved in two companion cases Nos. 1364 and 1887) the specification of the improvement patent in suit states that in the process of the earlier patent the full strength of the alkaline materials could react upon the exposed pectins of the ground or shredded waste and substantial amounts of water-insoluble pectins were converted into insoluble compounds of calcium and pectins which, when once dehydrated would not reabsorb water. (Vincent Ex. 37, Col. 1, lines 23-46).

Thereafter, the specification states:

> "When lime is added to citrus waste, three reactions take place: first and most quickly, the formation of the calcium citrate by reaction between the lime and the free acids in the water and juices; second, the formation of a gel by reaction between the

lime and the glucocides in the peel; and third, and more slowly, the formation of calcium pectate by reaction between the lime and the pectin in the solids.

"The first reaction is desirable as preventing corrosive action of the citric acid on the metals of the machinery and as eliminating a substance subject to deterioration and not desired in the finished product.

"The second reaction is also desirable in removing the bitter flavors and the gels which would otherwise interfere with pressing and drying.

"The third reaction is undesirable because calcium pectate is a hard, brittle substance when dry, that crumbles to a powder and has little water absorbing properties. I have found that the formation of this water-insoluble compound takes place as a result of an excessively alkaline reaction with the pectins of the ground peel * * *." (Vincent Ex. 37, Col. 1, lines 54, 55; Col. 2, lines 1 to 24).

16. The patent is directed to a process which encompasses a series of steps involving the precoating of the citrus waste with a weak aqueous lime solution, of sufficient concentration to neutralize the juices in the waste but of insufficient concentration to harden the pectins in the waste, the quick shredding of the coated waste, in the course of which the newly exposed cut edges of the waste are lime treated, the quick and thorough mixing of the treated mass, a relative quick passage through a delay or reaction conveyor and a multiple series of quick progressive drying steps all of which, the patent states, will result in a finished product with the least amount of hard, non-water absorbent calcium pectate due to the relatively short time of reaction of the lime on the waste in the course of the conveying as well as in the drying steps.

17. The patent suggests and describes for use in the practice of the process a preferred combination of feed mill machinery units shown in the form of a flow sheet in the drawings and described in the specification thereof.

18. Persons skilled in the art would understand the patent to disclose and claim an improved method and process whereby in a relatively short period of time in both chemical reaction and quick drying steps (Orlando Depositions, T. Ingols, p. 4104) there can be produced a cattle feed of superior quality, containing less hard calcium pectate and fines, having greater bulk and higher water absorbing properties; that the process disclosed has distinct advantages and is an improvement over the processes of the prior Vincent patent 2,215,944, (reissued as Reissue No. 22,865) in that the resulting cattle feed is of superior quality and has the attributes above set forth.

19. The claims in suit, 1 to 3, inclusive, and 5 to 13, inclusive, read as follows:

> 1. The method of producing a bulky, highly absorptive food product from citrus cannery waste material which comprises completely coating the individual pieces of untreated citrus cannery waste with a weak aqueous solution of a non-toxic alkaline compound of sufficient concentration to neutralize the free acids of the citrus juices associated with the waste but of insufficient concentration and duration of time to materially react upon the pectins in the waste, quickly shredding the coated waste material, immediately thereafter or rapidly mixing the shredded waste material in the presence of a sufficient aqueous nontoxic alkaline solution to neutralize newly released acids and form a gel, continuously and uniformly moving the gelled mass for a predetermined time to permit breaking the gel into a watery mother liquor and pulpy solids to a point where the mother liquor drains freely therefrom and thereafter drying the partially expressed solids.
>
> 2. The method of producing a food product from citrus cannery waste as defined in claim 1 in which the waste is briefly immersed in the aqueous alkaline solution so as to coat the inner and outer surfaces of the waste with the solution.

3. A method as set forth in claim 1 in which the non-toxic alkaline compound utilized in the mixing step consists of solution carried over with the citrus waste material from the first treatment step.

5. A method as set forth in claim 1 in which the non-toxic alkaline compound comprises calcium hydroxide.

6. The method of producing a food product as defined in claim 1 in which the predetermined timed movement of the gelled mass is uniform for successive batches of shredded material irrespective of varying amounts of shredded citrus waste delivered from the previous mixing operation.

7. The method as defined in claim 1 in which the non-toxic alkaline compound is lime water and the predetermined timed movement of the gelled mass is separate from the mixing operation and is uniform irrespective of varying amounts of material delivered from said mixing operation.

8. The method of producing a food product as defined in claim 1 in which the drying is effected with hot gases of combustion by passing the waste and hot gases of combustion through a confined drying path under subatmospheric pressure.

9. The method of producing a food product as defined in claim 1 in which drying is effected with hot gases of combustion under subatmospheric pressure and the dried waste products are separated from the current of products of combustion while under subatmospheric pressure.

10. A process as set forth in claim 1 in which drying is effected with hot gases of combustion under subatmospheric pressure and the hot gases and waste are given a tangential whirling motion to effect a separation of the waste from the subatmospheric pressure gases.

11. The method as defined in claim 1 in which the alkaline solution includes a calcium compound and insufficient time elapses from the shredding of the waste and the drying thereof to permit substantial conversion of the normal water-soluble pectins of the waste into calcium pectate.

12. A process as set forth in claim 1 in which the drying is effected with hot gases of combustion by passing the waste and hot gases of combustion through a confined drying path under subatmospheric pressure and thereafter the waste is passed through a cooler to reduce the temperature thereof and remove further moisture.

13. The method of producing a food product as defined in claim 1 in which the strength of the aqueous alkaline solution present with the waste during the shredding operation is such as to merely neutralize the additional liberated acids of the shredded waste and maintain the shredded mass in a slightly acidic balance to prevent substantial reaction with the pectins of the waste and formation of calcium pectate therein.

20. Plaintiff, owner of the patent in suit, is engaged in the design, manufacture and installation of citrus waste processing machinery substantially similar to that shown and described in the patent in suit, particularly adaptable to use in the practice of the processes of the patent. It has never itself practiced the process of the patent. No direct licenses under the patent have ever been granted. When, after March 21, 1949, the date on which plaintiff acquired the Vincent invention covered by patent 363, complete feed mills were sold by plaintiff, and the purchaser's intent was to use the same in the conversion of citrus waste into cattle food in accordance with the process of the 363 patent and as set out in the claims thereof, in the absence of any purchase contract provisions or clear indication that the contrary was intended, said purchaser thereby acquired a license to use the processes of the patent in suit.

Minute Maid's Activities.

21. Finding 21 should be the same as finding 35 in Suit No. 1887-T.

22. Finding 22 should be the same as finding 36 in Suit No. 1887-T.

23. Finding 23 should be the same as finding 37 in Suit No. 1887-T.

24. Finding 24 should be the same as finding 38 in Suit No. 1887-T.

25. Finding 25 should be the same as finding 39 in Suit No. 1887-T.

26. Finding 26 should be the same as finding 40 in Suit No. 1887-T.

27. Finding 27 should be the same as finding 41 in Suit No. 1887-T.

28. Finding 28 should be the same as finding 42 in Suit No. 1887-T.

29. Finding 29 should be the same as finding 43 in Suit No. 1887-T.

30. Finding 30 should be the same as finding 44 in Suit No. 1887-T.

31. Finding 31 should be the same as finding 45 in Suit No. 1887-T.

32. Finding 32 should be the same as finding 46 in Suit No. 1887-T.

33. Finding 33 should be the same as finding 47 in Suit No. 1887-T.

34. Finding 34 should be the same as finding 48 in Suit No. 1887-T.

35. Finding 35 should be the same as finding 49 in Suit No. 1887-T.

36. Finding 36 should be the same as finding 50 in Suit No. 1887-T.

37. Finding 37 should be the same as finding 51 in Suit No. 1887-T.

38. Finding 38 should be the same as finding 52 in Suit No. 1887-T.

39. Finding 39 should be the same as finding 53 in Suit No. 1887-T.

The Alleged Infringing Process. (Vincent T. p. 543, et seq.; Vincent Ex. 78; T. Smith, p. 1941 et seq.; T. Dr. Roy, p. 263, 266; Minute Maid Ex. 29; T. Hughes, p. 1905 et seq. and 1966 et seq.)

40. Within six years prior to the date of the commencement of this suit, without the authority or consent of plaintiff (T. Vincent, p. 608-609; 695), at its citrus pulp feed mill at Leesburg, Florida, within the jurisdiction of this Court, defendant, Minute Maid Corporation, in the use of its North and South feed mills has converted citrus cannery waste into a cattle food and in so doing has used the following methods or processes:

(a) *The Mechanical Movement of the Waste.* (T. Vincent, p. 612-695.)

41. In each of defendant's North and South Mills at Leesburg, Florida, in every material respect alike in construction, mode of operation and results obtained therein (Orlando Depositions Penn, p. 1203, 1204; Litsinger, p. 2621) slimy and unpressable citrus cannery waste comprised of peel, rag, seeds and culled fruit, is received and stored in a green peel storage bin. The bin stored waste, by gravity, discharges into a screw conveyor beneath the bin. This conveyor screw is driven by a variable speed drive, functioning to convey the waste from the bin in a controlled and constant supply to a sump in the lower end and forming an integral part of an inclined chain-paddle elevator serving to further transport the waste to a pair of shredders. (Patent Drawing, Ex. 37, Vincent Exhibits 78 and 80; T. Vincent, p. 616-617).

42. Installed above this paddle elevator sump is a Gump dry lime feeder with manually operated mechanisms by which a controlled varied amount of the lime in the feeder's hopper can be discharged therefrom into the sump below. At the lime feeder recycled press water by means of suitable piping is discharged into the sump in such manner that the dry lime from the feeder falls up and becomes incorporated with the press water stream, thus forming in the sump a weak alkaline water bath. (T.

Vincent p. 544, et seq.; Orlando Dep. Penn, p. 1088-89; Ingols, p. 4101; T. Schwarz, p. _____.)

43. The crosswise disposed paddles of the elevator travel in the sump on their way therethrough to the shredders in such manner as to chrum and mix the waste and alkaline liquids in the sump, so that the waste falling in the sump from the variable speed conveyor becomes coated with the solution of lime, (T. Vincent, p. 618; Orlando Dep. Schwarz, p. 2513) and as the paddles carry the waste upward to the shredders, a portion of the limed waters are taken with it. (T. Vincent, p. 623; Orlando Dep. Schwarz, p. 2528.) At the top of the elevator, the treated waste and limed liquid carried with it fall into the throats of the shredders where the waste is quickly cut and torn into long slender shreds greatly increasing the surfaces exposed to the limed liquid as it coats the newly cut edges of the waste. (T. Vincent, p. 634, 641.)

44. From the shredders the treated shredded waste falls by gravity into a relatively short quick mixer with pitched blades wherein during a period of less than two minutes the treated shredded waste and the limed water is vigorously mixed, before passing to the quick mixer's exit, at which point it falls into the entrance end of a delay or reaction conveyor.

45. The delay conveyor is 33 feet long with arcuate shaped bottom, vertical sides and normally open top. Over certain separate sections of the top of the reaction conveyor expanded metal safety gratings are installed which do not interfere with visibility of the treated mass therein. A shaft disposed along its longitudinal axis, with spiral cut flight blades welded thereto, revolves at 10 R.P.M. As designed and operated the reaction conveyor functions to impart to the mass a retarded forward movement as well as a gentle blending mixing action. From entrance to exit the treated mass is in the reaction conveyor for a period of time from six to seven minutes. (T. Vincent, p. 644-45; Orlando Dep. Schwarz, p. 2518-19.)

46. From the delay conveyor, the treated mass, now in a pressable two phase pulpy and separable water state, passes into and up an inclined chain-paddle elevator to the top or entrance of a screw press. As it passes up this elevator free liquid drains out of the pulp through a slotted screen in the inclined bottom of the elevator. (T. Vincent, p. 636); (Orlando Dep. Schwarz, p. 2522-23).

47. In its passage through the press in about one minute, the drained pulp is subjected to a pressing operation. The pressed pulp emerges from the press as "press cake" having a moisture content of about 70%. The press is equipped with a series of resistor bars supplied with steam which discharges therein serving to lubricate the pulp and aid its smoother passage through the press. Some of the press waters draining from the press and free liquid passing through the elevator screen, are pumped to the liming sump, the balance being utilized for the manufacture of citrus molasses which may, or not, be added to the press cake prior to the drying operation.

48. The press cake from the press is delivered to the drying system by conveyors. This system consists of a furnace, a revolving drier, an expansion chamber and a cooling reel.

On entering the rotating drier the press cake is subjected to its first drying step by the hot gases of combustion from the furnace. On their way through the drier within 4 minutes the press cake and hot gases having a temperature of 1200° to 1400° pass through confined paths under subatmospheric pressure. (T. Vincent, p. 649, 661, 679.)

49. At the exit end of the drier a vertical cylindrically shaped expansion chamber by means of a motor operated fan in the top thereof draws the hot gases and the partially dried press cake from the drier into the expansion chamber maintaining therein a partial vacuum. As the hot gases and the partially dried press cake enter tangentially of the inner periphery of the expansion chamber the partially dried press cake is whirled about therein at great

velocity. This centrifugal force action throws all particles of the solids against the chamber walls and holds them there until the accumulating mass of circulating feed becomes greater than the air therein can sustain, the excess portion slips down the wall of the chamber. In the continuous operation, the size of the supported circular mass remains substantially constant and there is a continuous slipping of the pulp moving downward the wall into the bottom. In the central portion of the expansion chamber, the solids lose their heated gases into the subatmospheric vacuum in the course of which some of the water is removed with the escaping hot gases bringing about a second drying step. (T. Vincent, p. 668-678.)

50. From the expansion chamber the hot feed is taken by bucket elevator to an inclined rotating cooling reel. (T. Vincent, p. 680 et seq.) A fan functions to draw off the fines and dust from the feed in the cooling step. The feed in the cooling reel is subjected to a current of air under subatmospheric pressure which becomes warmer as the hot feed gives up its heat. As the feed cools it gives up additional moisture which is carried away as the air in the cooling reel becomes progressively warmer. This provides a third drying step.

51. As it comes from the cooling reel the dried press cake in the form of citrus pulp cattle food is weighed and bagged. Within a space of 10 minutes the material has undergone five water removing steps (T. Vincent, p. 684) after leaving the delay conveyor, to-wit: (1) The screen in the elevator to the press allows most of the free liquids to drain away. (2) The press by mechanical means removes much of the remaining water in the pulp. (3) In the dryer the press cake gives up its moisture to the subatmospheric hot gases from the furnace. (4) In the expansion chamber the subatmospheric pressure therein maintained causes expansion of the pulp and further loss of water as the shreds swirl about in the hot gases losing some heat as the water evaporates. (5) In the cooling reel the gradual heating of the cool air by contact with the hot material greatly increases its capacity for water carry-

ing resulting in a final drying step. As a result of these drying steps the ensuing feed emerges with 10% or less moisture without burning or scorching, contributing to the feed's bulk, bright color, absence of fines and high water absorbing qualities.

From the time the green waste is limed, to the time it emerges at the sacking machine, as dry citrus pulp cattle feed, the entire process is completed within a period of less than 20 minutes.

Lime Addition and Its Chemical Reaction on the Waste.

(T. Vincent, p. 612-695; Orlando Dep. Schwarz, p. 2374 et seq.)

52. In processing its citrus waste defendant does not know and makes no attempt to ascertain the acidity or other chemical contents of its waste. It adds to the press water in the elevator sump controlled and varied amounts of lime (an alkaline compound—calcium hydroxide) (T. Vincent, p. 618) from about 0.35% to 0.45% depending upon the amount of lime required to produce a weak aqueous alkaline solution of sufficient concentration to neutralize the acids present in the citrus waste juices. (T. Vincent, p. 621). The alkaline solution coating the waste brings about a change in color (T. Hughes, p. ____) from the waste's natural greenishyellow color to a different brownishyellow color. At the same time that the lime neutralizes the acids in the waste (Orlando Dep. Schwarz, p. 2515) and changes its color, the lime also reacts upon and renders soluble the glucocides, soluble pectins and other organic chemicals in the waste including those which impart to the waste its original bitter flavor.

As the shredded treated waste falls from beneath the shredders into the quick mixer, the lime has not had time to fully react so that at this point the shredded treated mass is still somewhat in its natural slimy state. During its 2 minute progress through the quick mixer the further action of the lime on the waste carries the liquids in the mass progressively beyond the neutralization point into

the alkaline range causing the liquids in the mass to become progressively more viscous. (Orlando Dep. Schwarz, p. 2499.) In this viscous state near the exit end of the mixer and as it falls therefrom to the delay conveyor it is a brown colored gel having at times the consistency of a syrup and at others more or less rigidity so that when a sample of the mass is picked up and squeezed in the hand the gel exudes between the fingers and sticks thereto. This gel, observable on and about the surfaces of the shredded peel particles, is alkaline and registers a pH of about 9. (T. Hughes, p. ____; Orlando Dep. Schwarz, p. 2521.) Occluded within the colloidal gel structure is most of the liquids formerly in the mass.

53. At the forward or entrance section of the delay conveyor the viscosity of the gel is further apparent as the gelled mass resists the action of the delay conveyor screw in its gentle mixing and slow forward propulsion actions. As the mass proceeds down the delay conveyor and reaches the distance between its entrance and exit ends there has been released progressively from within the shredded waste particles residual acids not theretofore affected by the lime which, as it is released, acts to gradually lower the alkalinity of the mass so that as the mass approaches an approximate balance between alkalinity and acidity the gel breaks and the water occluded therein is released. By the time the treated mass reaches the exit end of the delay conveyor the mass has reverted to the acidic range. At this point the original non-pressable citrus waste has undergone such a progressive change in character and color that it is then a two phased pressable product consisting of whitish or light colored pulp solids and separable lighter or straw colored watery mother liquor commonly known as press water. (Orlando Dep. Schwarz, p. 2522.) In the draining and pressing operations heretofore described the greater part of the dissolved glucocides, soluble pectin and bitter tasting ingredients pass out of the waste with the drain and press waters.

54. In the process used by defendant the alkaline solution used in treating the waste is of insufficient concentration to materially affect the insoluble pectins and thus contributes to the absence of hard non-water absorbent calcium pectate in the finished feed. The setting of the proportioning device of the liming machine is also controlled by means of defendant's observation of the change in color of the waste to that shade which fosters the formation of the gel in such alkaline ranges that later in the process it may be broken in the presence of the acidic medium, the residual acids released from the peel particles.

55. In regulating its limeing machine defendant also relies upon hand grab tests of the citrus waste as it proceeds in the conveyors after the shredding operation by which means it ascertains the existence of the gel and its color. The condition of the material as it exits from the delay conveyor is also an aid in determining the exact amount of lime to be used.

56. In the reaction conveyor the mass is moved continuously and uniformly. After pressing such portions of lime remaining in the press cake if allowed to remain therein for a longer time would continue to react and harden the insoluble pectins present. (T. Vincent, p. 680.) Due to the quick drying steps accomplished in not more than 10 minutes, the lime on the waste does not have an appreciable effect on the insoluble pectins resulting in their remaining soft and water absorbent in the dry feed. (T. Vincent, p. 629-632.)

57. The dry citrus pulp cattle feed produced by defendant is a bulky, high absorptive food product having a low percentage of fines and dust, superior to other citrus pulp feeds made by older processes. (T. Vincent, p. 613-616; Orlando Dep. Schwarz, p. 2512.)

58. Accordingly, defendant's processes above described embody the inventions of the Vincent patent in suit and in all respects respond to the terminologies of claims 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12 and 13 of U. S. Patent 2,471,363 and are infringements thereof.

The Alleged Prior Art.

59. Daniel B. Vincent conceived and reduced to practice the inventions disclosed and claimed in U. S. Patent 2,471,363, on December 7, 1944, on which date he placed in commercial operation a citrus feed mill for Bruce's Juices, Inc., at Tampa, Florida, utilizing at that time and since machinery substantially similar to the organization of machinery shown in the drawings of said patent and described in the specification thereof; on said date Vincent reduced his invention to practice by employing in the commercial operation of the Bruce's Juices, Inc. plant a process in all respects similar to those later claimed in said patent. (T. Vincent, p. 301-303; Vincent, Ex. 69). December 7, 1944, is, therefore, the effective date of the patent in suit.

60. Prior to the effective date of the Vincent patent in suit, there were available to persons skilled in the art the following issued patents:

(a) U. S. Patent No. 1,991,242, granted to Cole and Hall on February 12, 1935.

(b) U. S. Patent No. 2,126,947, granted to Emery L. Cocke on August 16, 1938.

(c) U. S. Patent No. 2,187,501, granted to Adolph W. Lissauer on January 10, 1940.

(d) U. S. Patent No. 2,215,944, granted to Daniel B. Vincent on September 24, 1940.

(e) U. S. Patent No. 2,363,014, granted to Lissauer and Credo on November 7, 1944.

61. Copending in the Patent Office with the application which matured as the patent in suit was an application for patent granted and issued after the issuance of the patent in suit, being—

(f) Application for U. S. Patent, Serial No. 36,035, filed August 13, 1935, by Wayne M. Neal, maturing as U. S. Patent No. 2,548,510 on April 10, 1951.

62. The (a) Cole & Hall patent (Minute Maid Ex. 4) the (c) Lissauer patent (Minute Maid Ex. 4) and the (d) Vincent patent (Minute Maid Ex. 2) are references of record in the file wrapper contents of the patent in suit. They were considered by the Patent Office and found not to anticipate the disclosures and claims of the patent in suit.

63. The foregoing three patents, (a), (c) and (d), and (f) the Neal pending application, relate to methods of treatment of citrus waste with lime to bring about its pressability. The (e) Lissauer & Credo patent (Minute Maid Ex. 4) relates to a process for adding citrus molasses to press cake. The patent (b) to Cocke (Minute Maid Ex. 4) relates to a method of adding to the waste a mineral dietary mixture then cooking the citrus waste so as to explode the cells of the waste by heat so that the mineral dietary mixture can be incorporated therein. Two of the minerals specified in the Cocke patent—limestone and oyster shell flour, are alkaline materials; but lime is not suggested or specified.

64. None of the foregoing patents discloses a process for producing a bulky, highly water absorptive food product from citrus waste material which comprises the steps of completely coating the individual pieces of untreated citrus cannery waste with a weak aqueous solution of non-toxic alkaline compound of sufficient concentration to neutralize the free acids of the citrus juices associated with the waste but of insufficient concentration and duration of time to materially act upon the pectins in the waste, quickly shredding the coated waste material and recoating the newly exposed cut pieces in the shredding operation with the alkaline solution carried over with the citrus waste material from the first treatment step, immediately thereafter rapidly mixing the shredded material in the presence of a sufficiently aqueous non-toxic alkaline solution to neutralize newly released acids and form a gel, continuously and uniformly moving the jelled mass for a predetermined time to permit breaking the gel into a watery mother liquor and pulpy solids to the point where the

mother liquor drains freely therefrom and thereafter drying the partially expressed solids under subatmospheric pressure as provided for in the disclosure and the claims of the patent in suit.

65. The (a) Cole, et al. (c) Lissauer, (f) Neal patents call for the degrading and hardening of the pectins of the waste whereas the patent in suit is directed to a process in which the insoluble pectins in the waste remain soft and water absorbent.

66. None of the disclosures of the prior art patents anticipate any of the claims of the patent in suit.

Prior Art Publications.

67. Prior to the effective date of the patent in suit there were available to persons skilled in the art the following publications:

(i) Annual Report of the University of Florida, Agricultural Experimental Station, for fiscal year ending June 20, 1926. (Minute Maid Ex. 6)

(ii) Article by Nigel G. Ball, entitled "*On the Action of Pectase*" printed in the Scientific Proceedings of the Royal Dublin Society, published in London, England, in 1915. (Minute Maid Ex. 6)

(iii) Article By H. D. Poore, entitled "*Discovery of Naringin and Pectin from Residues*", printed in Industrial Engineering Chemistry, published June, 1934. (Minute Maid Ex. 6)

(iv) Article by Dorothy Haynes, entitled "*Measurements of the Rate of Precipitation of Pectins by the Alkalis and Alkaline Earths*" printed in the Bio-Chemical Journal and published October, 1914. (Minute Maid Ex. 6).

68. None of the teachings of the foregoing publications (i, ii, iii, and iv) relate to the conversion of citrus waste into a cattle food by a process of any kind. None of these publications are pertinent to the invention disclosed in the

patent in suit as defined by the claims thereof. With respect to (ii) the Ball article and (iii) the Poore article the record discloses no notice to plaintiff or its counsel of defendant's intended reliance on said articles as required by R. S. Sec. 4920, (35 U. S. C. A. Sec. 69).

If the Ball and Poore articles are to be considered for the purpose of showing the state of the art, neither of these publications indicates prior knowledge of a process in any manner resembling the teaching and disclosure of the patent in suit.

None of the disclosures of these printed publications anticipates the patent in suit.

Alleged Prior Uses.

69. Defendant pleaded in its answer and counterclaim and gave notice prior to trial as required by R. S. Sec. 4920 (35 U. S. C. A. 69) of the following alleged prior public uses which it contends anticipates and negatives the novelty of the patent in suit:

(A) By Wayne M. Neal, at Gainesville, Florida, during June and July, 1935.

(B) By Wayne M. Neal at Louisville, Kentucky, on September 9, 1935.

(C) By Adolph Lissauer at Louisville, Kentucky, on September 9, 1935 and thereafter.

(D) By Julius Credo at Louisville, Kentucky, on September 9, 1935 and thereafter.

(E) By Emory L. Cocke at Atlanta, Georgia, in August, 1936.

(F) By Frank Burman at Saginaw, Michigan, during September, 1936.

(G) By Suni-Citrus Products Co. at Haines City, Florida, beginning December 8, 1937 and thereafter.

(H) By Citrus Pulp, Inc. at Tampa, Florida, from October, to December, incl., 1936.

(I) By Daniel B. Vincent at Tampa, Florida, fall of 1936.

(J) By John M. Kuder and his companies at Anaheim, Los Angeles and Colton, California, and Lake Alfred, Florida.

(K) Exchange Lemon Products Co. at Anaheim, Calif.

70. Most of the proofs regarding the foregoing listed prior uses, based upon the uncorroborated oral recollections of the witnesses going back 15 years or more, is contradictory and unsatisfactory to establish any prior use of processes disclosed and claimed in the patent in suit. In certain instances where laboratory reports were produced for the purpose of corroboration of the witnesses' recollections these reports do not indicate the uses of processes and reduction to practice thereof in any manner similar to the processes disclosed and claimed in the patent in suit. None of the alleged prior uses constitutes an anticipation of the patent in suit.

71. The Vincent patent 2,471,363 is not anticipated and is valid and infringed.

Alleged Misuse of the Patent in Suit.

72 to 82. Findings 72 to 82 inclusive, should be the same as findings 68 to 78, inclusive, under the heading of "Alleged Misuse of the Patent in Suit" in the suggested findings in Case No. 1364-T.

CONCLUSIONS OF LAW.

1. The Court has jurisdiction of the subject matter of this suit and of the parties thereto.

2. United States Letters Patent No. 2,471,363, is not anticipated by the prior published art or by any prior public uses and, therefore, is a valid patent.

3. Minute Maid Corporation, defendant, has made unauthorized use of the processes embodying the inven-

tion disclosed by said Patent 2,471,363, which infringes claims 1 to 3, incl. and 5 to 13, incl., thereof.

4. Plaintiff, Dan B. Vincent, Inc., Food Processes, Inc. and Daniel B. Vincent, have not conspired to misuse the patent in suit, and the owner of said patent, Dan B. Vincent, Inc. in the enjoyment thereof, has committed no act in contravention of the Sherman and Clayton Act or in any manner unlawfully misused said Patent 2,471,363.

5. The allegation of defendant's counterclaim have not been sustained and is hereby denied and dismissed with costs, reserving to plaintiff the right in due course to apply to the Court for an allowance of attorney's fees.

6. By reason of the infringement found, Dan B. Vincent, Inc., plaintiff, is entitled to an injunction enjoining Minute Maid Corporation, defendant, its officers, employees and agents from further infringement of said patent No. 2,471,363 and the claims thereof.

7. This case be, and the same is, referred to a Master to be appointed by the Court to determine the amount of damages, if any, the owner of said patent 2,471,363, has suffered by reason of defendant's infringement thereof.

Decree in conformity with the foregoing, on notice, may be presented in 10 days.

Respectfully submitted,

PRENTICE E. EDRINGTON.

APPENDIX C.

OFFICE OF THE CLERK
UNITED STATES COURT OF APPEALS
FIFTH CIRCUIT

John A. Feehan, Jr.
Clerk

NEW ORLEANS 6, LA.

November 4, 1954.

Mr. H. A. Toulmin, Jr.
Attorney at Law
Dayton, Ohio

Dear Sir:

I beg to advise you that the Court today entered an order denying the Petition for the Rehearing in re -

No. 14250, VINCENT vs. SUNI-CITRUS.
FOOD PROCESSES vs. MINUTE MAID
VINCENT vs. MINUTE MAID.

No opinion was rendered in connection therewith.

Very truly yours,
John A. Feehan
John A. Feehan, Jr.,
Clerk.

JAF:b

RECD. 11/5/54 FROM chicago
FWD. ..... TO .....
FILED ..... DATE .....
DOCKETED 11/8/54 CLK ack